



AL 12-000-9853

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 8 2012

THE ADMINISTRATOR

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

I am pleased to renew the National Advisory Council for Environmental Policy and Technology in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Advisory Council for Environmental Policy and Technology is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The National Advisory Council for Environmental Policy and Technology will be in effect for two years from the date the charter is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Clara Jones in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-3701.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa P. Jackson".

Lisa P. Jackson

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY CHARTER

NATIONAL ADVISORY COUNCIL FOR ENVIRONMENTAL POLICY AND TECHNOLOGY

1. Committee's Official Designation (Title):

National Advisory Council for Environmental Policy and Technology

2. Authority:

This charter renews the National Advisory Council for Environmental Policy and Technology (NACEPT) in accordance with the provisions of the Federal Advisory Committee Act (FACA), 5 U.S.C. App. 2. The NACEPT is in the public interest and supports EPA in performing its duties and responsibilities.

3. Objectives and Scope of Activities:

NACEPT's scope involves advising the EPA Administrator on broad, crosscutting issues associated with EPA's environmental management on matters relating to activities and functions under federal environmental statutes, executive orders, regulations, and policies. NACEPT advises on ways to improve the development and implementation of domestic and international environmental management policies, programs, and technologies.

The major objectives are to provide advice and recommendations on:

- a. Identifying approaches to improve the development and implementation of domestic and international environmental management policies and programs;
- b. Providing guidance on how EPA can most efficiently and effectively implement innovative approaches throughout the Agency and its programs;
- c. Identifying approaches to enhance information and technology planning;
- d. Fostering improved approaches to environmental management in the fields of economics, finance, and technology;
- e. Increasing communication and understanding among all levels of government, business, non-governmental organizations, and academia, with the goal of increasing non-federal resources and improving the effectiveness of federal and non-federal resources directed at solving environmental problems;

- f. Implementing statutes, executive orders and regulations; and
- g. Reviewing progress in implementing statutes, executive orders and regulations.

4. **Description of Committee's Duties:**

The duties of the NACEPT are solely to provide advice to EPA.

5. **Official(s) to Whom the Committee Reports:**

NACEPT will submit advice and recommendations and report to the EPA Administrator through the Office of Federal Advisory Committee Management and Outreach.

6. **Agency Responsible for Providing the Necessary Support:**

EPA will be responsible for financial and administrative support. Within EPA, this support will be provided by the Office of Federal Advisory Committee Management and Outreach.

7. **Estimated Annual Operating Costs and Work Years:**

The estimated annual operating cost of the NACEPT Council and its subcommittees is \$600,000 which includes 2.5 person-years of support.

8. **Designated Federal Officer:**

A full-time or permanent part-time employee of EPA will be appointed as the DFO. The DFO or a designee will be present at all of the advisory committee's and subcommittee meetings. Each meeting will be conducted in accordance with an agenda approved in advance by the DFO. The DFO is authorized to adjourn any meeting when he or she determines it is in the public interest to do so, and will chair meetings when directed to do so by the official to whom the committee reports.

9. Estimated Number and Frequency of Meetings:

NACEPT generally meets three times a year. Meetings may occur approximately once every four months or as needed and approved by the DFO. EPA may pay travel and per diem expenses when determined necessary and appropriate.

As required by FACA, the NACEPT will hold open meetings unless the Administrator determines that a meeting or a portion of a meeting may be closed to the public in accordance with subsection c of section 552b of title 5, United States Code. Interested persons may attend meetings, appear before the committee as time permits, and file comments with the NACEPT.

10. Duration and Termination:

NACEPT will be examined annually and will exist until the EPA determines the committee is no longer needed. This charter will be in effect for two years from the date it is filed with Congress. After the initial two-year period, the charter may be renewed as authorized in accordance with Section 14 of FACA.

11. Member Composition:

The NACEPT Council will be composed of approximately twenty-five (25) members who will serve as Representative members of non-federal interests, Regular Government Employees (RGEs), or Special Government Employees (SGEs). Representative members are selected to represent the points of view held by organizations, associations, or classes of individuals. In selecting members, EPA will consider candidates from federal, state, local and tribal governments, the finance, banking, and legal communities, business and industry, professional and trade associations, environmental advocacy groups, national and local environmental non-profit groups, including public interest groups, and academic institutions.

12. Subgroups:

EPA, or NACEPT with EPA approval, may form NACEPT subcommittees or workgroups for any purpose consistent with this charter. Such subcommittees or workgroups may not work independently of the chartered committee and must report their recommendations and advice to the NACEPT for full deliberation and discussion. Subcommittees or workgroups have no authority to make decisions on behalf of the chartered committee nor can they report directly to the Agency.

13. Recordkeeping:

The records of the committee, formally and informally established subcommittees, or other subgroups of the committee, shall be handled in accordance with NARA General Records Schedule 26, Item 2 and EPA Records Schedule 181 or other approved agency records disposition schedule. Subject to the Freedom of Information Act, 5 U.S.C. 552, these records shall be available for public inspection and copying, in accordance with the Federal Advisory Committee Act.

May 31, 2012

Agency Approval Date

June 1, 2012

GSA Consultation Date

JUN - 8 2012

Date Filed with Congress



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 8 2012

THE ADMINISTRATOR

The Honorable James H. Billington
Librarian of Congress
Library of Congress
Washington, D.C. 20540

Dear Mr. Billington:

I am pleased to renew the National Advisory Council for Environmental Policy and Technology in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Advisory Council for Environmental Policy and Technology is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

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If you have any questions or require additional information, please contact me or your staff may contact Clara Jones in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-3701.

Sincerely,

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Lisa P. Jackson

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 8 2012

THE ADMINISTRATOR

The Honorable Joseph I. Lieberman
Chairman
Committee on Homeland Security
and Governmental Affairs
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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Lisa P. Jackson

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 8 2012

THE ADMINISTRATOR

The Honorable Susan Collins
Ranking Member
Committee on Homeland Security
and Governmental Affairs
United States Senate
Washington, DC 20510

Dear Senator Collins:

I am pleased to renew the National Advisory Council for Environmental Policy and Technology in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Advisory Council for Environmental Policy and Technology is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

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Lisa P. Jackson

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 8 2012

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to renew the National Advisory Council for Environmental Policy and Technology in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Advisory Council for Environmental Policy and Technology is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

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Lisa P. Jackson

Enclosure

AL 14-000-7339

BARBARA BOXER, CALIFORNIA, CHAIRMAN

THOMAS R. CARPER, DELAWARE
BENJAMIN L. CARDIN, MARYLAND
BRIAN SCHWARTZ, VERMONT
SHELLEY MOSEBROOK, RHODE ISLAND
TOM UDANO, NEW HAMPSHIRE
JEFF MERKLEY, OREGON
JOHN T. CORNYN, TEXAS
CORY A. BOOKER, NEW JERSEY
EDWARD J. MARKEY, MASSACHUSETTS

DAVID VITTER, LOUISIANA
JAMES M. INHOFE, OKLAHOMA
JOHN BARRASSO, WYOMING
JEFF SESSIONS, ALABAMA
MIKE CRAPO, IDAHO
ROGER WICKER, MISSISSIPPI
JOHN BOOZMAN, ARKANSAS
TED CROZZER, NEBRASKA

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

BILLYE TURNER, MAJORITY STAFF DIRECTOR
JACK HARRIS, REPUBLICAN STAFF DIRECTOR

March 5, 2014

The Honorable Gina McCarthy
Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave., NW
Washington, DC 20460

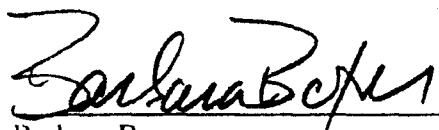
Dear Administrator McCarthy:

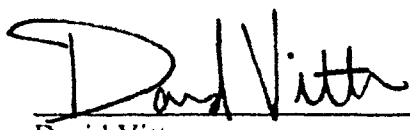
Thank you for appearing before the Committee on Environment and Public Works on January 16, 2014, at the hearing entitled, "Review of the President's Climate Action Plan." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

Enclosed are questions for you that have been submitted by Senators Boxer, Carper, Vitter, Inhofe, Barrasso, Sessions, Crapo, and Fischer for the hearing record. Please submit your answers to these questions by COB March 19, 2014, to the attention of Mara Stark-Alcalá, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Mara_Stark-Alcala@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Joe Mendelson of the Majority Staff at (202) 224-8832, or Margaret Caravelli of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,


Barbara Boxer
Chairman


David Vitter
Ranking Member

**Environment and Public Works Committee Hearing
January 16, 2014
Follow-Up Questions for Written Submission**

Questions for McCarthy

Questions from:

Senator Barbara Boxer

1. On December 7, 2009, the EPA made the finding (Endangerment Finding) that current and projected levels of greenhouse gases including, carbon dioxide (CO₂) and methane threaten the public health and welfare of the nation's current and future generations. Could you please summarize the findings as it relates to the extreme weather, floods, drought and wildfires?
2. Could you please summarize the peer-reviewed science that served as the basis for the Endangerment Finding?
3. Was the EPA use of peer-reviewed climate change science in the Endangerment Finding upheld by the U.S. Court of Appeals for the District of Columbia in the case *Coalition for Responsible Regulation v. EPA* (June 26, 2012)?
4. EPA has sought public comments on its proposed rules for new power plants. Is it correct that the agency received over 2.5 million public comments on the proposal?
5. Is it correct that the vast majority of these comments supported EPA action to limit carbon pollution from power plants?
6. The Climate Action Plan calls for using the Clean Air Act to set limits on carbon pollution from cars, trucks, and power plants. Are these actions supported by the Supreme Court decisions in *Massachusetts v. EPA* (2007) and *American Electric Power v. Connecticut* (2011), as well as more recent decisions from the U.S. Court of Appeals for the D.C. Circuit?
7. The Climate Action Plan calls for using the Clean Air Act to set limits on carbon pollution from cars, trucks, and power plants. Over the Clean Air Act's forty-plus year history what benefits has it provided to the nation's health and economy?
8. The Administration has already taken several steps to reduce carbon pollution. One of the biggest steps has been new fuel economy standards for cars and trucks. Could you please describe the consumer and climate change benefits of those rules?
9. Do other countries have standards requiring that new coal-fired power plants to capture carbon dioxide?
10. If so, do any of these standards require greater capture of carbon dioxide than the levels proposed by the EPA in its "Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units," 79 Fed. Reg. 1430 (Jan. 8, 2014)?
11. In October 2013, the Global CCS Institute, whose membership includes American Electric Power, Arch Coal and Duke Energy, stated that "CCS technology is well understood and a reality." It also identified, as of September 2012, 75 large-scale integrated CCS projects with 16

of these projects currently operating or in construction and 59 in planning stages of development. Do these findings support a determination that that carbon capture and sequestration technology is a best system of emission reduction that has been adequately demonstrated?

Senator Thomas R. Carper

1. **Administrator McCarthy, I was quite happy with what was in the President's Climate Action Plan. However, I was surprised to see what was not included – support for domestic efforts to reduce black carbon. Recent studies have shown black carbon to be the second most damaging greenhouse agent behind carbon dioxide. These same studies have shown the most effective way to reduce black carbon is by cleaning up diesel emissions. Do you believe DERA and domestic clean diesel programs like Clean Construction should be part of our strategy to address climate here at home? If so, do you think we can expect more support from the Administration in future budgets?**
2. **The EPA is scheduled to finalize standards for cooling water intake structures under section 316(b) of the Clean Water Act by January 28, 2014. What steps have been taken to ensure the best science available has been used to determine both the costs and benefits to justify the new standards?**
3. **In 2013, 4 of our nation's 104 nuclear power reactors permanently shutdown and one more is scheduled to retire by the end of 2014. We may see more closures this year. What are the assumptions in the President's Climate Action Plan about the base load generation of electricity through nuclear power in order to meet climate and carbon emission goals? What will the impact of these 5 plant closures be on the President's climate and carbon emission goals? What will the impact of more nuclear power reactor closures, if any, be on those goals?**

Senator David Vitter

1. How much has your agency spent on climate change-related activities, including those in furtherance of the Climate Action Plan, since 2008?
2. According to EPA, an apparent benefit of the proposed rule is that the new source rule will serve as a "necessary predicate" for a power plant existing source rule under section 111(d). As EPA notes, under section 111, Congress prohibited EPA from issuing an existing source rule for a pollutant under section 111(d) unless it had first issued a new source rule under section 111(b) for that pollutant. Do you think issuing a "pro forma" new source rule that does nothing except pave the way for an existing source rule circumvents Congressional intent, and renders the new source rule predicate added to the statute meaningless?
3. The Office of Management and Budget, during its review of EPA's re-proposed New Source Performance Standards for Power Plants, questioned EPA's assertion of the technical feasibility of carbon capture because EPA's determination that carbon capture and storage is adequately demonstrated as the best system of emissions reduction "relies heavily on literature reviews, pilot projects, and commercial facilities yet to operate." OMB also asserted that they believed "this cannot form the basis of a finding that CCS on commercial-scale power plants is 'adequately demonstrated.'" OMB also requested details of the specific CCS operations already in service that process the rate of CO2 necessary for a typical IGCC power plant to be in compliance.
 - a. What examples did EPA explicitly provide?
4. You've said that hydraulic fracturing can be done safely and have agreed with former EPA Administrator Lisa Jackson that there have been no confirmed cases of hydraulic fracturing impacting drinking water. Given that the President's Climate Action Plan relies heavily on the use of natural gas, what is your vision for getting the American public to understand that hydraulic fracturing is safe and that fracking has unlocked an American energy revolution that is lowering all Americans' energy prices, creating jobs, helping to lower GHG emissions, and revitalizing such industries as the manufacturing, steel, and chemical sectors?
5. EPA has addressed GHG emissions from the refining industry through fuel economy standards and through the GHG Tailoring Rule for larger projects. The refining industry accounts for only 3% to 6% of the total U.S. GHG emissions from industry. The refining industry already has the incentive to control energy: energy accounts for up to 50% of a refinery's controllable costs. Because the refining industry is already highly efficient, EPA analysis indicates that there is no opportunity for any significant reductions in this sector. Why is EPA putting efforts into regulating already highly efficient industries?
6. What is the status of EPA's response to Industry's Freedom of Information request filed on August 20, 2013, with respect to the Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866?
7. The second proposal of the GHG NSPS for new power plants does not address the Energy Policy Act of 2005 (EPAAct) or the potential limitations it imposes on EPA's "Best System of Emission Reduction" analysis. What is EPA's position on the fact that EPAAct prohibits EPA from considering technology used at a facility receiving assistance under the Department of Energy's Clean Coal Power Initiative, or at a facility that is receiving an advanced coal project tax credit, as being "adequately demonstrated" for purposes of Section 111 of the Clean Air Act?

8. Under the language of Section 111(d) of the Clean Air Act, EPA establishes a procedure under which states submit to the EPA a plan that contains standards of performance for existing stationary sources.
 - a. Does EPA agree that the states, not EPA, have the authority to establish "standards of performance" for existing stationary sources?
 - b. Does EPA agree that any carbon dioxide emissions standards for existing power plants should be achievable at existing power plants?
9. In a document entitled "Questions for State Partners" issued by EPA in September 2013, EPA surveyed States about their experiences with "...emissions budget trading programs, resource planning requirements, end-use energy, efficiency resource standards, renewable energy portfolio standards, and appliance and building code energy standards..." This document suggests that EPA plans to decide what is achievable at existing electricity generating units by looking "outside the fence" to these types of activities. Can you confirm that EPA will not go "outside the fence" when deciding what is "achievable" by existing power plants? Yes or no?
10. Last fall, 17 State Attorneys General and one Senior Environmental Regulator sent you a white paper. The AGs raised concerns that EPA will not properly defer to States in establishing and implementing standards for existing power plants, and that under the guise of "flexibility," EPA will require existing power plants to operate less or shut down. Can you provide any assurances that, in its GHG regulation of existing plants, EPA will not force the retirement or reduced operation of still-viable coal-fired power plants?
11. EPA is running point on the 316(b) proposal. This rule, as it was proposed, would affect a staggering 600 facilities across the country. I'm concerned about the cross-agency coordination, considering all of the agencies that are now involved. Are you concerned at all that these ESA negotiations could actually result in a de facto mandate to install cooling towers on power plants and manufacturers who use waters to cool their facilities?
12. Several provisions in EPA's proposed 316(b) cooling water intake rule could lead to a requirement to install cooling towers. These include (1) a requirement for modified units, including nuclear uprates or replacements of turbines and condensers, to install cooling towers similar to EPA's New Source Review program under the Clean Air Act, (2) a requirement to use "willingness-to-pay" surveys to measure benefits that would significantly overstate benefits and possibly justify a decision to install towers; (3) a change in the status of cooling ponds and impoundments long considered to be closed-cycle cooling; and (4) overly broad Endangered Species Act provisions that could require facilities to cease operation or install cooling towers if a threatened or endangered species is located in a water body from which a facility draws water even without evidence of impact to that species. Facilities faced with a requirement to install cooling towers would likely retire rather than retrofit. This is especially true for nuclear units, many of which are unprofitable today as a result of low demand, low natural gas prices and subsidized renewable generation. Have you considered the effect of retirements of nuclear units on grid reliability and climate change goals as a result of the 316(b) rulemaking?
13. We believe the Services should conclude the rule is "not likely to adversely affect" T&E species. We agree with EPA's original finding that the rule does not authorize any actions that could potentially harm T&E species because the rule provides additional protections for species from impingement and entrainment at cooling water intake structures. What steps are EPA taking to

ensure that its original finding will prevail in the final rule? What organizations within the Administration are contesting that finding and on what basis?

14. Any ESA monitoring and study requirements must be focused on T&E species directly affected by the intake through entrainment or impingement. We understand that the proposed ESA provisions in 316(b) will require permittees to identify listed species that *may* be in the waterbodies from which a facility draws water and *might be* indirectly affected by intake structures. How does such an approach comport with the Endangered Species Act or the Clean Water or 40 years of precedent?
15. The approach proposed to be used to incorporate proposed ESA provisions into the state 316(b) permitting process represents a dramatic departure from the current NRC-initiated Section 7 consultations procedure used for nuclear facilities that involves multiple federal agencies. Having the ESA consultation take place prior to submittal of a state permit application would shift the decision-making to a single federal agency. Rather, any ESA study or consultation should occur as an integral part of the current permitting process and not separately. What are your thoughts on this?
16. On June 25, 2012, the San Miguel Electric Cooperative submitted comments on the original proposed Greenhouse Gas New Source Performance Standards.¹ Those comments explicitly warned that the Energy Policy Act of 2005 ("EPAc") prohibits EPA from considering technology funded by the Clean Coal Power Initiative in analysis under § 111 of the Clean Air Act. Three months later, when introducing Re-proposed GHG NSPS on September 20, 2012, you referred to comments submitted to the original proposal saying, "We did what democracy demands. We paid attention. We read those comments. We thought about them. And we decided that we needed to update the proposal." However, you recently testified to the Committee that you were unaware of the EPAc prohibitions noted in the San Miguel comments at the time you made that statement.
 - a. Were any Agency employees involved in drafting the Re-Proposed GHG NSPS aware of the EPAc prohibitions when the rule was issued on September 20, 2012?
 - b. When was the first time Agency employees involved in drafting the Re-Proposed GHG NSPS discussed the EPAc prohibitions?
17. According to the Re-proposed GHG NSPS, "DOE/NETL has prepared other reports—in particular their 'Cost and Performance Baseline' reports, including one on partial capture — that further support our proposed determination of the technical feasibility of partial capture." However, the DOE/NETL cost and performance baseline for partial capture includes a 20% "process contingency" to account for the fact that pre-combustion and post-combustion carbon capture is "unproven technology at commercial scale" for power plant applications. Please explain how modeling that assumes that CCS is unproven technology for commercial-scale power plants supports finding CCS to be proven technology for commercial-scale power plants.

¹ Euitizi, Joseph, *Comments on the Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Proposed Rule*, 77 Fed. Reg. 22392, SAN MIGUEL ELEC. COOP., Docket No. EPA-HQ-OAR-2011-0660-9964, Jun. 25, 2012 (citing EPAc §402(i) and saying "The Clean Coal Power Initiative . . . was created by the Energy Policy Act of 2005 . . . to provide hundreds of millions of dollars of federal funding to clean coal projects. However, understanding that technologies developed under this act would not be commercially available, Congress included limitations on using these technologies as part of NSPS or other CAA reviews . . .") (emphasis in original)).

18. On December 19, EPA issued a draft guidance on EOR operations, "Draft Underground Injection Control Program Guidance on Transitioning Class II Wells to Class VI Wells," that suggests if the business model for a well or group of wells changes from enhanced recovery to permanent carbon storage, the wells may need to be re-permitted as Class VI wells.
 - a. Did EPA consider the cost of re-permitting and converting these wells in the proposed GHG rule?
 - b. Isn't it true the CO2 injection in EOR applications is the only possible scenario that is at all economical?
19. Stringent regulations in the U.S. will also increase the likelihood that energy intensive industries will build in other countries with fewer environmental controls. How are you addressing the problem of carbon leakage to make sure these regulations do not in fact increase global GHG emissions?
20. I, along with others, sent three letters to EPA regarding the Agency's involvement in the development of the SCC estimates, including the Agency's participation in the Interagency Working Group. Your Director Atmospheric Programs testified that staff from that office participated in the IWG, assisting particularly in respect to the technical work and the modeling.
 - a. Did you participate in any meetings of the IWG?
 - b. Did any of your direct reports participate in or attend any of the meetings?
 - c. Did you sign off on or approve any materials, technical analysis, or assistance that was provided by the Agency to the IWG?
 - d. Are the models relied upon in developing the Social Cost of Carbon estimates published and available on EPA's website?
 - e. Is the technical work and modeling conducted by EPA's Office of Atmospheric Programs for the IWG in the development of the SCC estimates publicly available including on EPA's website?
 - f. Which of your Agency's offices participated, including the number of staff, hours, and other resources dedicated to such work, as well as any outside experts or consultants that provided input or comments?
21. The interagency working group decided to focus on the *global* social cost of carbon even though OMB Circular A-4 requires the regulatory impact analyses to include an analysis of *domestic* costs and benefits, leaving international analysis optional.
 - a. What is the difference between the global and U.S.-only [domestic] social cost of carbon?
 - b. How will you balance domestic versus global estimates of the social cost of carbon in making decisions?
 - c. Why doesn't the SCC only address the domestic cost as required by OMB?

Senator James Inhofe

- 1. Ms. McCarthy, during your tenure at the EPA, has the Agency ever produced an estimate of the job losses that would be sustained across the entire economy as a result of a new regulation?**
 - 2. With respect to the EPA's New Source Performance Standards for electric generation units, did OMB, the Department of Energy, or any other agency in the federal government raise any concern or question that the rule's requirement to use Carbon Capture Sequestration technology may not yet be commercially demonstrated?**
-

Senator John Barrasso

1. A Bloomberg News story ran entitled "EPA Assertions on Carbon Capture Viability Sparked Concerns by White House Officials." The article, which ran on January 10, 2014, quotes from interagency comments prepared by the White House Office of Management and Budget. The article quotes the White House OMB as saying about your new rule that—

"EPA's assertion of the technical feasibility of carbon capture relies heavily on literature reviews, pilot projects, and commercial facilities yet to operate. We believe this cannot form the basis of a finding that CCS on commercial-scale power plants is 'adequately demonstrated.'"

As stated before, the law requires that emission control performance standards must be "adequately demonstrated." The White House is clearly saying that CCS is not adequately demonstrated.

What does the White House know that you haven't acknowledged and is the agency going to speak more definitively on this topic? If so, when?

Senator Jeff Sessions

1. I have received many letters from constituents who are deeply troubled by the unwarranted, burdensome aspects of the President's climate agenda. A few examples are provided below, along with questions for you to answer specifically.

- a. **Jerry in Birmingham, Alabama** wrote: "I would like to know how [President] Obama and the EPA can pass laws that are closing the coal industry. There is no consideration about the impact on the middle class and our energy program. I thought Congress passed laws because each person in Congress represents the people in his district/state. We can't have one person setting regulations ..."

Please explain how, in your view, Congress has expressly authorized the Environmental Protection Agency to regulate carbon dioxide released from the combustion of coal and natural gas in electric generating units.

- b. **Leslie in Gardendale, Alabama** wrote: "The President is talking about helping the middle class yet his policies and laws are hurting the middle class by destroying middle class jobs related to the coal industry... The company I work for had 50 employees when the President took office and today we have 28." Similarly, **Steve in Winfield, Alabama** wrote: "If we really want to grow the economy and create good paying jobs, then why would we do anything to make coal more costly to mine and use? The main areas where coal mines are operating are areas that would be economically devastated if coal mining were non-existent. These areas have a blue collar work force ..."

Please explain your best estimate of the number of coal sector jobs that would be impacted by the portions of the President's climate plan that EPA intends to implement.

- c. **Keith in Fayette, Alabama** wrote: "With the Obama Administration's all-out war on coal, he is killing hundreds of thousands of jobs both directly and indirectly nationwide... This is a rare issue that touches every single person living in our state."

Please list every regulation proposed and/or finalized by EPA since January 21, 2009 that is likely to have an adverse impact on coal sector jobs in the United States.

2. Has EPA fully analyzed the economic impact of the President's Climate Action Plan, taking into account the "whole economy"? If so, can you give me a copy of that report? Has EPA fully analyzed the specific impact of the President's plan on blue collar, middle class jobs?
3. I am informed that, according to a recent study, Alabama families spend an estimated average of 13% of their after-tax incomes on energy, and that of the 489,000 Alabama families with annual incomes of \$10,000 to \$30,000, one quarter of the state's population, spend an estimated average of 25% of their after-tax family budgets on energy. In light of these facts, can you assure me that the President's Climate Action Plan will not increase energy costs for low- and fixed income families in my state? Can you assure any other Senators that the Plan will NOT increase energy costs for low- and fixed-income families in their states?
4. Can you assure me that the President's Climate Action Plan will NOT increase energy costs for Alabama manufacturers?

5. Even the mere threat of expensive new regulations can hinder job creation and economic growth. President Obama conceded this fact when, in 2011, he directed EPA to not move forward with reconsideration of the ozone standard "particularly as our economy continues to recover" (Pres. Obama, 9/2/2011). At the time, EPA's reconsideration of the ozone standard was considered to be one of the most expensive rules ever proposed by EPA, and it threatened thousands of jobs. It is also true that the ozone reconsideration imposed a tremendous burden on state and local governments, and cost taxpayers millions of dollars. On December 17th, I wrote you a letter, joined by all Republicans on this Committee, outlining these concerns and renewing a longstanding, unanswered request for an accounting by EPA of the costs it incurred as part of the ozone reconsideration process. EPA has had more than 2 years to answer our request, and during your confirmation process, you committed that you would answer. One day before our hearing, on January 15, 2014, EPA responded with a brief letter to my attention, declining to provide the requested information. Troublingly, EPA conceded that "...it is difficult for us to estimate, with any meaningful precision, the expenses and full-time equivalent employees used for the reconsideration of the 2008 standard specifically." This sounds like an admission by EPA that it can't provide Congress with an explanation about how much taxpayer funds were used in the ozone reconsideration process. Why can't an agency with thousands of employees produce a simple accounting of dollars and time spent on a major rulemaking effort? Would EPA be able to provide an accounting of all taxpayer funds expended as part of EPA's implementation of the President's climate action plan?
6. We have received official satellite temperature data for 2013, and those measurements show that global temperatures did not increase last year—continuing a trend going back to 1998. Do you dispute this fact—that global atmospheric temperatures, as measured in the lower troposphere, have not increased in over 15 years?
7. Your testimony seems to acknowledge that U.S. actions, alone, will not result in meaningful changes in global temperatures. Your written testimony provides: "The President's Plan recognizes that the United States must couple action at home with leadership abroad." Is it correct that, even if the President's entire climate agenda is implemented and his emissions reductions goals are achieved in full, there would be no significant difference in global temperatures 20, 50, or even 100 years from now (relative to current projections), unless China, India, and other large nations take similar steps to reduce their emissions by comparable amounts? While U.S. and European CO₂ emissions have declined or remained fairly stable since 2000, CO₂ emissions from China have increased by almost 170% since 2000. India is also increasing emissions dramatically. What firm commitments has the Administration obtained from China or India to reduce CO₂ emissions?
8. According to the IEA, there are over 2,300 coal-fired power plants worldwide. In its proposed CO₂ standard for new power plants, EPA proposed that U.S. coal-fired power plants be required to install carbon capture and storage (CCS) systems. Of the 2,300 coal-fired power plants in the world today, how many full scale CCS projects are operating presently?
9. In a letter to me dated December 24, 2013, the State Department acknowledged a "recent slowdown in atmospheric warming," but the President seems to deny that there is a slowdown in warming. Do you agree that we have currently experienced a period of at least 15 years without significant increases in global temperatures as measured in the lower troposphere? Have you discussed these facts concerning global temperatures with the President? Will you do so in the future to ensure his comments on the status of climate, as the nation's Chief Executive, are accurate?

Senator Mike Crapo

1. In your testimony, you mentioned "the President asked the EPA to work with states, utilities and other key stakeholders to develop plans to reduce carbon pollution from future and existing power plants." Additionally, you mentioned the eleven public listening sessions your agency held around the country as proposed regulations were developed. However, these listening sessions avoided many of the areas where the President's Climate Action plan will likely have the most severe negative economic consequences.
 - a. Does the EPA not view our country's top coal producing and utilizing states as "key stakeholders" in this policy debate?
2. You mentioned a threat to national security as a potential consequence of not vigorously implementing policies to combat climate change. A greater concern to me in the arena of national security, which history has shown, is the reliance on foreign energy resources from volatile regions of the world.
 - a. With the abundant energy resources in the U.S., including natural gas, coal and petroleum, and the subsequent threat posed by the President's Climate Action Plan in utilizing these resources, how do you propose to promote our national security while undermining our energy security?
 - b. Nuclear, a zero emissions energy resource, was not mentioned in your opening testimony, however, it is mentioned in the President's Climate Action Plan.
 - c. As Administrator of the EPA, what is your personal assessment of the role nuclear energy can play in accomplishing the Administration's climate objectives?
 - d. What assumptions does the Administration's climate action plan make regarding new nuclear plants?
 - e. What assumptions does the Administration's climate action plan make regarding existing nuclear plants?
 - f. The President's Climate Action Plan discusses supporting new nuclear plants (primarily in the context of international activities). What activities does the Administration envision undertaking to ensure the continued operation of existing nuclear plants?
 - g. Have you looked at the effect that closing nuclear power plants would have on the President's climate goals?
3. Dr. Judith Curry, PhD, Professor and Chair, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, mentioned in her testimony that reducing carbon emissions is not simply a "control knob" in reducing the threat of global climate change, as evidenced by the inconsistency between emissions and temperature forecasts over the past approximately fifteen years. Reducing carbon emissions is a central pillar of the President's Climate Action Plan.
 - a. If fully implemented, what would you anticipate the measurable gain, if any, the Administration's proposal would be on the issue of climate change?

Senator Deb Fischer

1. Administrator McCarthy, last September, seventeen state attorneys general and one state environmental commissioner wrote to you to express their concerns regarding what they called "a serious, ongoing problem in environmental regulation: the tendency of EPA to seek to expand the scope of its jurisdiction at the cost of relegating the role of the States to merely implementing whatever Washington prescribes, regardless of its wisdom, cost, or efficiency in light of local circumstances." Specifically the states highlight the limits of EPA's authority under the Clean Air Act for regulating existing sources.
 - a. Do you agree with these state officials that under the law, EPA's authority is limited to establishing a procedure by which the states submit plans for regulating existing sources?
 - b. Do you agree that while EPA is authorized to require states to submit plans containing performance standards, EPA may not dictate what those performance standards shall be, nor may EPA require states to adopt greenhouse gas performance standards that are not based on adequately demonstrated technology?
2. Charles McConnell, former Assistant Secretary for Fossil Energy at the Department of Energy, recently stated before Congress and to the press that carbon capture and storage technologies are not adequately demonstrated and commercially available and viable. His message is clear, that that carbon capture is not ready for a mandate, as has been done in EPA's NSPS proposal. Multiple Administration officials have refused to address Mr. McConnell's comments. What is your response to his claims? Is he right or wrong?
3. Media reports recently revealed that EPA's Science Advisory Board (SAB) raised multiple concerns with EPA about how it went about formulating its New Source Performance Standards. The reports say that the SAB wanted to undertake a formal review of how EPA went about the process, but EPA staff pressured the SAB not to do so. What is the purpose of having an SAB if EPA does not want it to do its job?
4. A new study by Life Cycle Associates (a firm that has done work under contract for EPA) found that average corn ethanol was reducing GHG emissions by 21% in 2005; yet, EPA's analysis suggests this level won't be achieved until 2022. The final rule for the RFS2 clearly indicated that EPA would update its GHG analysis as new information became available. A number of recent papers by academia, government, and industry show that corn ethanol's GHG performance is significantly better than assumed by EPA. But the Agency has not made a single change to its original GHG analysis to reflect advanced in the science. Why?



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 23 2014

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

Thank you for the opportunity to respond to the questions for the record following the January 16, 2014, hearing entitled, "Review of the President's Climate Action Plan." The attached document responds to the questions. I hope that this information is useful to you and the other members of the committee.

If you have any further questions, please contact me or you staff may contact Kevin Bailey in EPA's Office of Congressional and Intergovernmental Relations at 202-564-2998.

Sincerely,

A handwritten signature in black ink, which appears to read "Laura Vaught", is positioned above the typed name.

Laura Vaught
Associate Administrator

**Environment and Public Works Committee Hearing
January 16, 2014
Administrator Gina McCarthy
Follow-Up Questions for Written Submission**

Senator Barbara Boxer

Senator Barbara Boxer

1. On December 7, 2009, the EPA made the finding (Endangerment Finding) that current and projected levels of greenhouse gases including, carbon dioxide (CO₂) and methane threaten the public health and welfare of the nation's current and future generations. Could you please summarize the findings as it relates to the extreme weather, floods, drought and wildfires?

EPA specifically addressed how extreme events associated with climate change factored into the endangerment decision. With regard to how these extreme events factored into EPA's decision to make an endangerment finding for public health, the summary statement from the 2009 Endangerment Finding was the following: "The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be adversely affected by an increase in the severity of coastal storm events due to rising sea levels." Regarding public welfare, the Endangerment Finding stated, "Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions, provide strong support for such a finding."

To take forestry as an example, the Endangerment Finding stated, "For the near term, the Administrator believes the beneficial impact on forest growth and productivity in certain parts of the country from climate change to be more than offset by the clear risk from the more significant and serious adverse effects from the observed increases in wildfires, combined with the adverse impacts on growth and productivity in other areas of the country and the serious risks from the spread of destructive pests and disease. Increased wildfires can also increase particulate matter and thus create public health concerns as well. For the longer term, the Administrator views the risk from adverse effects to increase over time, such that overall climate change presents serious adverse risks for forest productivity."

2. Could you please summarize the peer-reviewed science that served as the basis for the Endangerment Finding?

To inform its decision on endangerment, EPA primarily relied on the major peer-reviewed assessments of the National Research Council (of the National Academies of Science), the U.S. Global Change Research Program, and the Intergovernmental Panel on Climate Change. EPA viewed, and continues to view, these assessments as the best reference materials and the best available science. In addition, EPA reviewed numerous individual studies that were submitted to EPA as part of the public comment process, and EPA thoroughly responded to all comments associated with those studies throughout its 11 volumes of responses to comments, all of which are publically available on EPA's website.

3. Was the EPA use of peer-reviewed climate change science in the Endangerment Finding upheld by the U.S. Court of Appeals for the District of Columbia in the case *Coalition for Responsible Regulation v. EPA* (June 26, 2012)?

Yes. The U.S. Court of Appeals, in its June 26, 2012, decision upheld EPA's use of peer-reviewed scientific assessments as the basis for the Endangerment Finding. The Court of Appeals concluded the Endangerment Finding was "neither arbitrary nor capricious," that EPA "compiled a substantial scientific record," and that state and industry petitioners' objections to EPA's use and interpretation of "major scientific assessments" had no merit. The Court of Appeals described the assessments used by EPA as such: "These peer-reviewed assessments synthesized thousands of individual studies on various aspects of greenhouse gases and climate change and drew 'overarching conclusions' about the state of science in this field."

4. EPA has sought public comments on its proposed rules for new power plants. Is it correct that the agency received over 2.5 million public comments on the proposal?

EPA received more than 2.5 million public comments on the April 2012 proposal, and a large number of these comments were supportive of reducing carbon emissions from power plants. The EPA issued a new proposal in January 2014, and the comment period closed on May 9, 2014. EPA received more than 2 million public comments on the January 2014 proposal.

5. Is it correct that the vast majority of these comments supported EPA action to limit carbon pollution from power plants?

Yes, see answer to question 4.

6. The Climate Action Plan calls for using the Clean Air Act to set limits on carbon pollution from cars, trucks, and power plants. Are these actions supported by the Supreme Court decisions in *Massachusetts v. EPA* (2007) and *American Electric Power v. Connecticut* (2011), as well as more recent decisions from the U.S. Court of Appeals for the D.C. Circuit?

Yes, as well as the Supreme Court's recent decision in *Utility Air Regulatory Group v. EPA* (2014).

7. The Climate Action Plan calls for using the Clean Air Act to set limits on carbon pollution from cars, trucks, and power plants. Over the Clean Air Act's forty-plus year history what benefits has it provided to the nation's health and economy?

For more than 40 years, the Clean Air Act has fostered steady progress in reducing air pollution, allowing Americans to breathe easier and live healthier. A peer-reviewed 2011 EPA study estimated that, in 2010 alone, reductions in fine particle pollution and ozone pollution achieved by the Clean Air Act Amendments of 1990:¹

- Avoided more than 160,000 premature deaths, 130,000 heart attacks (acute myocardial infarction), millions of cases of respiratory problems such as acute bronchitis and asthma attacks, and 86,000 hospital admissions.
- Prevented 13 million lost workdays, improving worker productivity which contributes to a stronger economy.

¹ U.S. EPA, *The Benefits and Costs of the Clean Air Act from 1990 to 2020: Final Report*, Office of Air and Radiation, March 2011. This study is the third in a series of studies mandated by Congress in the Clean Air Act Amendments of 1990. The report received extensive review and input from the Council on Clean Air Compliance Analysis, an independent panel of distinguished economists, scientists and public health experts established by Congress in 1991. Report available at <http://www.epa.gov/air/sect812/prospective2.html>.

- Kept kids healthy and in school, avoiding 3.2 million lost school days due to respiratory illness and other diseases caused or exacerbated by air pollution.

Multiple peer-reviewed economic analyses suggest that the substantial public health benefits of the Clean Air Act are far greater than the costs of achieving them.²

1. Most recently, EPA's peer-reviewed 2011 study found that clean air programs established by the 1990 CAA amendments are expected to yield direct benefits to the American people which vastly exceed compliance costs.³
 - The study's central benefits estimate in 2020 exceeds costs by a factor of more than 30-to-1, and the high benefits estimate exceeds costs by 90-to-1. Even the low benefits estimate exceeds costs by about 3-to-1.
 - In addition to direct benefits vastly exceeding direct costs, economy-wide modeling conducted for the study found that the economic welfare of American households is better with post-1990 clean air programs than without them.
 - Economic welfare and economic growth rates are improved because cleaner air means fewer air-pollution-related illnesses, which in turn means less money spent on medical treatments and lower absenteeism among American workers. The study projects that the beneficial economic effects of these two improvements alone more than offset the economic impacts from expenditures for pollution control.
 - The EPA report received extensive review and input from the Advisory Council on Clean Air Compliance Analysis, an independent panel of distinguished economists, scientists and public health experts established by Congress in 1991.
2. Another, earlier peer-reviewed EPA study examined the benefits and costs of Clean Air Act programs from 1970 to 1990, and also found that the public health protection and environmental benefits exceeded the costs by a large margin.⁴

8. The Administration has already taken several steps to reduce carbon pollution. One of the biggest steps has been new fuel economy standards for cars and trucks. Could you please describe the consumer and climate change benefits of those rules?

EPA and the Department of Transportation (DOT) have jointly established a National Program of harmonized standards to address climate change and energy dependence, respectively setting standards to reduce greenhouse gases (GHGs) and improve fuel economy from light-duty passenger cars and trucks. These standards are projected to result in new vehicles achieving 163 g/mile of CO₂ by 2025 (the equivalent of 54.5 mpg if achieved exclusively through fuel economy improvements) – which represents roughly a doubling of fuel economy since President Obama took office. The National Program ensures that auto manufacturers can build a single fleet of U.S. vehicles that satisfy requirements of both federal programs as well as California's program. The

² See for example: U.S. EPA, *The Benefits and Costs of the Clean Air Act from 1990 to 2020: Final Report*, Office of Air and Radiation, March 2011; U.S. EPA, *The Benefits and Costs of the CAA 1990 to 2010: EPA Report to Congress*, Office of Air and Radiation, November 1999; U.S. EPA, *The Benefits and Costs of the CAA, 1970 to 1990: Prepared for U.S. Congress by U.S. Environmental Protection Agency*, October 1997.

³ U.S. EPA, *The Benefits and Costs of the Clean Air Act from 1990 to 2020: Final Report*, Office of Air and Radiation, March 2011.

⁴ U.S. EPA, *The Benefits and Costs of the CAA, 1970 to 1990: Prepared for U.S. Congress by U.S. Environmental Protection Agency*, October 1997. Report available at: <http://www.epa.gov/air/sect812/retro.html>.

standards also preserve consumer choice -- that is, the standards should not affect consumers' opportunity to purchase the size of vehicle with the performance, utility and safety features that meet their needs.

The benefits of this program are enormous. Together, the standards for model years 2012-2025 will save 12 billion barrels of oil and 6 billion metric tons of CO₂ over the lifetime of those vehicles. Americans will save \$1.7 trillion at the gas pump over the life of the program, and consumers who buy a new model year 2025 vehicle will save more than \$8,000 in gasoline over that vehicle's lifetime.

9. Do other countries have standards requiring that new coal-fired power plants to capture carbon dioxide?

Yes. One clear example is Canada, which in 2012 set a performance standard for new coal-fired units that can be met by building coal generation with Carbon Capture and Storage (CCS). In addition to performance standards, many countries around the world are taking action to limit carbon pollution through a range of measures, including market-based programs and investments in clean generation.

Canada is also home to the world's largest fully-integrated commercial-scale CCS project of its kind—SaskPower's Boundary Dam. The Boundary Dam project, which began commercial operations in October 2014, fully integrates the rebuilt 110 MW coal-fired Unit #3 with available CCS technology to capture 90 percent of its CO₂ emissions.

10. If so, do any of these standards require greater capture of carbon dioxide than the levels proposed by the EPA in its "Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units," 79 Fed. Reg. 1430 (Jan. 8, 2014)?

In the case of Canada, their performance standard is set at 420 metric tons per gigawatt hour. After putting the standards on a comparable basis, the Canadian standard is approximately 10% to 18% more stringent than the proposed U.S. standard.

11. In October 2013, the Global CCS Institute, whose membership includes American Electric Power, Arch Coal and Duke Energy, stated that "CCS technology is well understood and a reality." It also identified, as of September 2012, 75 large-scale integrated CCS projects with 16 of these projects currently operating or in construction and 59 in planning stages of development. Do these findings support a determination that that carbon capture and sequestration technology is a best system of emission reduction that has been adequately demonstrated?

The EPA has proposed to determine that CCS is technically feasible for new coal-fired power plants, because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. For example there are several industrial projects in the U.S. that are currently capturing the CO₂ for use in enhanced oil recovery (EOR) or other applications. There have been numerous smaller-scale projects that have demonstrated the technology, and there are several full-scale projects – both in the U.S. and internationally – that are under construction today. Thus, the EPA has proposed to determine that partial CCS is the Best System of Emission Reduction (BSER) for new coal-fired power plants.

Senator Thomas R. Carper

1. Administrator McCarthy, I was quite happy with what was in the President's Climate Action Plan. However, I was surprised to see what was not included – support for domestic efforts to reduce black carbon. Recent studies have shown black carbon to be the second most damaging greenhouse agent behind carbon dioxide. These same studies have shown the most effective way to reduce black carbon is by cleaning up diesel emissions. Do you believe DERA and domestic clean diesel programs like Clean Construction should be part of our strategy to address climate here at home? If so, do you think we can expect more support from the Administration in future budgets?

The DERA program has been very successful. DERA averages more than \$13 in health and economic benefits for every \$1 in funding. Since 2008, Congress has appropriated more than \$560 million for the DERA program, including \$300 million as part of the American Recovery and Reinvestment Act of 2009. However, budget constraints mean we have to make tough choices. Ongoing projects will continue during FY 2015, as the agency continues to support and administer projects funded through the regular DERA program.

2. The EPA is scheduled to finalize standards for cooling water intake structures under section 316(b) of the Clean Water Act by January 28, 2014. What steps have been taken to ensure the best science available has been used to determine both the costs and benefits to justify the new standards?

The EPA agrees that it was important that its final standards for cooling water intake structures under Section 316(b) of the Clean Water Act be informed by the best-available science and information regarding costs and benefits. For the Section 316(b) rulemaking, benefits include the protection of fish and other aquatic organisms, while costs include the potential expense to covered facilities to comply with the rule. The agency's final rule was signed on May 19, 2014, and published in the Federal Register on August 15, 2014. The agency performed a benefit-cost analysis of its regulation, which was made available to the public at the time the final rule was published in the Federal Register.

3. In 2013, 4 of our nation's 104 nuclear power reactors permanently shutdown and one more is scheduled to retire by the end of 2014. We may see more closures this year. What are the assumptions in the President's Climate Action Plan about the base load generation of electricity through nuclear power in order to meet climate and carbon emission goals? What will the impact of these 5 plant closures be on the President's climate and carbon emission goals? What will the impact of more nuclear power reactor closures, if any, be on those goals?

The 2014 U.S. Climate Action Report to the UNFCCC includes projections of U.S. GHG emissions under current policies and measures, and potential reductions from additional measures consistent with the President's Climate Action Plan. The scenario describing projections of emissions under policies and measures already in place was based on the 2013 Annual Energy Outlook published by Energy Information Administration. Since then, EIA has published the 2014 Annual Energy Outlook full report, which has updated information on nuclear power generation. Generation from nuclear power in AEO2014 is 12% below levels in AEO2013 in 2020, but due to other changes, emissions from the electric power sector are less than 2% above levels in AEO2013 in 2020. The following table summarizes the data from AEO2013 and the AEO2014.

	AEO2013	AEO2014
Nuclear generation capacity in 2020 (Gigawatts)	110.6	97.8
Nuclear electricity produced (billion kwh)	885	779

CO2 emissions from the electricity sector (TgCO2e)	2081	2112
Total CO2 emissions (TgCO2e)	5455	5476

Senator David Vitter

1. How much has your agency spent on climate change-related activities, including those in furtherance of the Climate Action Plan, since 2008?

The following table contains a summation of total dollars (both pay and non-pay) that support multiple EPA programs focusing on addressing the issue of climate change.

EPA Climate Change Funding (\$100s)	FY 2008 Enacted	FY 2009 Enacted	FY 2010 Enacted	FY 2011 Enacted	FY 2012 Enacted	FY 2013 Enacted	FY 2014 Enacted
EPA	126,315	127,404	192,398	177,248	\$168,418	\$154,491	\$158,784

2. According to EPA, an apparent benefit of the proposed rule is that the new source rule will serve as a "necessary predicate" for a power plant existing source rule under section 111(d). As EPA notes, under section 111, Congress prohibited EPA from issuing an existing source rule for a pollutant under section 111(d) unless it had first issued a new source rule under section 111(b) for that pollutant. Do you think issuing a "pro forma" new source rule that does nothing except pave the way for an existing source rule circumvents Congressional intent, and renders the new source rule predicate added to the statute meaningless?

EPA is proposing requirements for these sources because fossil fuel-fired power plants are the country's largest stationary source emitters of GHGs. These actions are consistent with the Climate Action Plan announced by the President in June 2013 to cut the carbon pollution that causes climate change and affects public health.

3. The Office of Management and Budget, during its review of EPA's re-proposed New Source Performance Standards for Power Plants, questioned EPA's assertion of the technical feasibility of carbon capture because EPA's determination that carbon capture and storage is adequately demonstrated as the best system of emissions reduction "relies heavily on literature reviews, pilot projects, and commercial facilities yet to operate." OMB also asserted that they believed "this cannot form the basis of a finding that CCS on commercial-scale power plants is 'adequately demonstrated.'" OMB also requested details of the specific CCS operations already in service that process the rate of CO₂ necessary for a typical IGCC power plant to be in compliance.

- a. What examples did EPA explicitly provide?

The EPA shared the same information with OMB that we have shared with the general public through the preamble of the proposed rule and the accompanying Technical Support Documents.

4. You've said that hydraulic fracturing can be done safely and have agreed with former EPA Administrator Lisa Jackson that there have been no confirmed cases of hydraulic fracturing impacting drinking water. Given that the President's Climate Action Plan relies heavily on the use of natural gas, what is your vision for getting the American public to understand that hydraulic fracturing is safe and that fracking has unlocked an American energy revolution that is lowering all Americans' energy prices, creating jobs, helping to lower GHG emissions, and revitalizing such industries as the manufacturing, steel, and chemical sectors?

Responsible development of America's shale gas resources offers important economic, energy security, and environmental benefits. Recognizing this, in April 2012, President Obama signed

E.O. 13605, Supporting Safe and Responsible Development of Unconventional Domestic Natural Gas Resources, which, among other things, charges federal agencies to pursue multidisciplinary, coordinated research. The EPA is working with other federal agencies, states, and other stakeholders to understand and address potential concerns with hydraulic fracturing so the public has confidence that natural gas production will proceed in a safe and responsible manner. The EPA continues to move forward on our national research study on the potential impacts of hydraulic fracturing for oil and gas on drinking water resources in response to a request from Congress. The study scope was designed to meet Congress' request and was established in November 2011 in the Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources, after public comment and peer review by the Science Advisory Board. The scope has not changed since the release of the final study plan.

5. EPA has addressed GHG emissions from the refining industry through fuel economy standards and through the GHG Tailoring Rule for larger projects. The refining industry accounts for only 3% to 6% of the total U.S. GHG emissions from industry. The refining industry already has the incentive to control energy: energy accounts for up to 50% of a refinery's controllable costs. Because the refining industry is already highly efficient, EPA analysis indicates that there is no opportunity for any significant reductions in this sector. Why is EPA putting efforts into regulating already highly efficient industries?

The EPA is not currently developing national standards to specifically regulate greenhouse gas (GHG) emissions from U.S. petroleum refineries. The EPA is continuing to study the issue of greenhouse gas (GHG) emissions from U.S. petroleum refineries. As part of other ongoing rulemaking actions we anticipate notable GHG co-benefit reductions. For example, rulemaking actions targeted at criteria pollutant and toxic pollutant reductions, specifically our new source performance standard and maximum achievable control technology programs, will likely produce notable co-benefit reductions. In addition, while EPA and the National Highway Traffic Safety Administration (NHTSA) are working to reduce GHG emissions and improve fuel economy of vehicles, this work does not ensure that refineries operate in an efficient manner.

6. What is the status of EPA's response to Industry's Freedom of Information request filed on August 20, 2013, with respect to the Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866?

The EPA fulfilled this request and provided responsive materials to the requestor on October 16, 2014.

7. The second proposal of the GHG NSPS for new power plants does not address the Energy Policy Act of 2005 (EPAAct) or the potential limitations it imposes on EPA's "Best System of Emission Reduction" analysis. What is EPA's position on the fact that EPAAct prohibits EPA from considering technology used at a facility receiving assistance under the Department of Energy's Clean Coal Power Initiative, or at a facility that is receiving an advanced coal project tax credit, as being "adequately demonstrated" for purposes of Section 111 of the Clean Air Act?

EPA does not believe that these provisions impact its determination. The EPA issued a Notice of Data Availability (NODA) that notes the availability of a Technical Support Document (TSD) in the rulemaking docket that details its position on this issue. It explains, "EPA interprets these provisions to preclude EPA from relying solely on the experience of facilities that received EPAAct05 assistance, but not to preclude EPA from relying on the experience of such facilities in conjunction with other information." EPA based its determination on a number of projects and other

information including projects that did not receive any assistance under the Energy Policy Act of 2005. In addition, the agency extended the public comment period for the proposal by 60 days to allow adequate time for the public to review and comment on the contents of the NODA and TSD.

8. Under the language of Section 111(d) of the Clean Air Act, EPA establishes a procedure under which states submit to the EPA a plan that contains standards of performance for existing stationary sources.
 - a. Does EPA agree that the states, not EPA, have the authority to establish “standards of performance” for existing stationary sources?
 - b. Does EPA agree that any carbon dioxide emissions standards for existing power plants should be achievable at existing power plants?

Under EPA’s long-standing regulations implementing Section 111(D) of the Clean Air Act, it is the responsibility of the Administrator to determine the Best System of Emissions Reduction that has been adequately demonstrated.

Under the statute, the term “standard of performance” means a “standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.” EPA explored all options available for achieving cost effective standards of performance by analyzing, among other things, results from the extensive outreach to states, industry, and other stakeholders we conducted prior to issuing the proposed Clean Power Plan on June 2, 2014.

9. In a document entitled “Questions for State Partners” issued by EPA in September 2013, EPA surveyed States about their experiences with “...emissions budget trading programs, resource planning requirements, end-use energy, efficiency resource standards, renewable energy portfolio standards, and appliance and building code energy standards...” This document suggests that EPA plans to decide what is achievable at existing electricity generating units by looking “outside the fence” to these types of activities. Can you confirm that EPA will not go “outside the fence” when deciding what is “achievable” by existing power plants? Yes or no?

Section 111 (d) of the Clean Air Act is a state-based program for existing sources. The EPA establishes guidelines that give states the flexibility to design programs that fit in those guidelines to get the needed emissions reductions. We issued the proposed Clean Power Plan on June 2, 2014, and it was published in the Federal Register on June 18, 2014. The Clean Power Plan has two main parts: state-specific goals to lower carbon pollution from power plants and guidelines to help the states develop their plans for meeting the goals. The goal is a target states have to meet by 2030, while starting to make meaningful progress toward reductions by 2020. States develop plans to meet their goals, but EPA is not prescribing a specific set of measures for states to put in their plans. This gives states flexibility. States will choose what measures, actions, and requirements to include in their plans, and demonstrate how these will result in the needed reductions.

The Clean Power Plan will put in place a consistent national framework that builds on work states are already doing to reduce carbon pollution – especially through programs that encourage

renewable energy or energy efficiency. It will reduce carbon pollution from existing power plants while ensuring a reliable and affordable supply of power.

States will have fifteen years from when the rule is final until compliance with the final target, time in which to plan for and achieve reductions in carbon pollution.

10. Last fall, 17 State Attorneys General and one Senior Environmental Regulator sent you a white paper. The AGs raised concerns that EPA will not properly defer to States in establishing and implementing standards for existing power plants, and that under the guise of "flexibility," EPA will require existing power plants to operate less or shut down. Can you provide any assurances that, in its GHG regulation of existing plants, EPA will not force the retirement or reduced operation of still-viable coal-fired power plants?

Section 111 (d) of the Clean Air Act is a state-based program for existing sources. The EPA establishes guidelines that give states the flexibility to design programs that fit in those guidelines to get the needed emissions reductions. We issued the proposed Clean Power Plan on June 2, 2014, and it was published in the Federal Register on June 18, 2014. The Clean Power Plan has two main parts: state-specific goals to lower carbon pollution from power plants and guidelines to help the states develop their plans for meeting the goals. The goal is a target states have to meet by 2030, while starting to make meaningful progress toward reductions by 2020. States develop plans to meet their goals, but EPA is not prescribing a specific set of measures for states to put in their plans. This gives states flexibility. States will choose what measures, actions, and requirements to include in their plans, and demonstrate how these will result in the needed reductions. This allows them to consider local factors, including the impact of retirements, when they set their plans.

11. EPA is running point on the 316(b) proposal. This rule, as it was proposed, would affect a staggering 600 facilities across the country. I'm concerned about the cross-agency coordination, considering all of the agencies that are now involved. Are you concerned at all that these ESA negotiations could actually result in a de facto mandate to install cooling towers on power plants and manufacturers who use waters to cool their facilities?

EPA's 316(b) final rule was signed on May 19, 2014. Prior to that date, the rule was the subject of an interagency review coordinated by the Office of Management and Budget. Because this rule affects manufacturing and electric generating facilities, a significant number of federal agencies were involved in that review. At the same time, EPA was also in the midst of consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service ("the Services"), under section 7 of the Endangered Species Act. After careful consideration of multiple factors, EPA concluded that closed cycle cooling is not the "best technology available" for existing units.

12. Several provisions in EPA's proposed 316(b) cooling water intake rule could lead to a requirement to install cooling towers. These include (1) a requirement for modified units, including nuclear upgrades or replacements of turbines and condensers, to install cooling towers similar to EPA's New Source Review program under the Clean Air Act, (2) a requirement to use "willingness-to-pay" surveys to measure benefits that would significantly overstate benefits and possibly justify a decision to install towers; (3) a change in the status of cooling ponds and impoundments long considered to be closed-cycle cooling; and (4) overly broad Endangered Species Act provisions that could require facilities to cease operation or install cooling towers if a threatened or endangered species is located in a water body from which a facility draws water even without evidence of impact to that species. Facilities faced with a requirement to install cooling towers would likely retire rather than retrofit. This is especially true for nuclear units, many of which are unprofitable today as a result of

low demand, low natural gas prices and subsidized renewable generation. Have you considered the effect of retirements of nuclear units on grid reliability and climate change goals as a result of the 316(b) rulemaking?

As we did at proposal, EPA analyzed the possibility that plants would close due to increased costs of compliance with the final rule; this analysis is not confined to just nuclear power plants. After careful consideration of multiple factors, EPA concluded in the final rule that closed cycle cooling is not the “best technology available” for existing units. The final rule addresses site-specific challenges and establishes a common-sense framework that provides flexibility for facilities to comply.

13. We believe the Services should conclude the rule is “not likely to adversely affect” T&E species. We agree with EPA’s original finding that the rule does not authorize any actions that could potentially harm T&E species because the rule provides additional protections for species from impingement and entrainment at cooling water intake structures. What steps are EPA taking to ensure that its original finding will prevail in the final rule? What organizations within the Administration are contesting that finding and on what basis?

On May 19, 2014, the EPA and the Services concluded their consultation under section 7 of the ESA. ~~The Services final biological opinion concluded that EPA’s rule is not likely to jeopardize the~~ continued existence of ESA-listed species and is not likely to destroy or adversely modify designated critical habitat. EPA and the Services also have a memorandum of agreement (66 FR 11202, February 22, 2001) concerning coordination between EPA and the Services for conducting EPA’s Clean Water Act programs, such as promulgation and approval of water quality standards and states’ permitting programs.

14. Any ESA monitoring and study requirements must be focused on T&E species directly affected by the intake through entrainment or impingement. We understand that the proposed ESA provisions in 316(b) will require permittees to identify listed species that *may* be in the waterbodies from which a facility draws water and *might be* indirectly affected by intake structures. How does such an approach comport with the Endangered Species Act or the Clean Water or 40 years of precedent?

On May 19, 2014, the EPA and the Services concluded their consultation under section 7 of the ESA. The consultation concerned the “action area” where the “action” is EPA’s final regulations on cooling water intake structures at existing facilities. In their ESA regulations (at 50 CFR 402.02), the Services have defined “action area” to mean “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.”

15. The approach proposed to be used to incorporate proposed ESA provisions into the state 316(b) permitting process represents a dramatic departure from the current NRC-initiated Section 7 consultations procedure used for nuclear facilities that involves multiple federal agencies. Having the ESA consultation take place prior to submittal of a state permit application would shift the decision-making to a single federal agency. Rather, any ESA study or consultation should occur as an integral part of the current permitting process and not separately. What are your thoughts on this?

Your question is about one of the issues that EPA and the Services discussed in the section 7 consultation under the ESA, which concluded on May 19, 2014. As described above, EPA and the Services have a memorandum of agreement concerning coordination between EPA and the

Services for conducting EPA's Clean Water Act programs. The final rule requires permitting authorities to send a copy of the permit application to the Services upon receipt, and to issue a draft permit only after 60 days have passed, to give the Services an opportunity to provide input. EPA's NPDES regulations already require the draft permit to be sent to the Services. Thus, the Services' input is part of the current permitting process. Nothing in EPA's rule changes the obligations of facilities that already comply with the ESA.

16. On June 25, 2012, the San Miguel Electric Cooperative submitted comments on the original proposed Greenhouse Gas New Source Performance Standards.⁵ Those comments explicitly warned that the Energy Policy Act of 2005 ("EPAAct") prohibits EPA from considering technology funded by the Clean Coal Power Initiative in analysis under § 111 of the Clean Air Act. Three months later, when introducing Re-proposed GHG NSPS on September 20, 2012, you referred to comments submitted to the original proposal saying, "We did what democracy demands. We paid attention. We read those comments. We thought about them. And we decided that we needed to update the proposal." However, you recently testified to the Committee that you were unaware of the EPAAct prohibitions noted in the San Miguel comments at the time you made that statement.
- Were any Agency employees involved in drafting the Re-Proposed GHG NSPS aware of the EPAAct prohibitions when the rule was issued on September 20, 2012?
 - When was the first time Agency employees involved in drafting the Re-Proposed GHG NSPS discussed the EPAAct prohibitions?

EPA does not believe that these provisions impact its determination. The EPA issued a Notice of Data Availability (NODA) that notes the availability of a Technical Support Document (TSD) in the rulemaking docket that details its position on this issue. It explains, "EPA interprets these provisions to preclude EPA from relying solely on the experience of facilities that received EPAAct05 assistance, but not to preclude EPA from relying on the experience of such facilities in conjunction with other information." EPA based its determination on a number of projects and other information including projects that did not receive any assistance under the Energy Policy Act of 2005. In addition, the agency extended the public comment period for the proposal by 60 days to allow adequate time for the public to review and comment on the contents of the NODA and TSD.

17. According to the Re-proposed GHG NSPS, "DOE/NETL has prepared other reports—in particular their 'Cost and Performance Baseline' reports, including one on partial capture — that further support our proposed determination of the technical feasibility of partial capture." However, the DOE/NETL cost and performance baseline for partial capture includes a 20% "process contingency" to account for the fact that pre-combustion and post-combustion carbon capture is "unproven technology at commercial scale" for power plant applications. Please explain how

⁵ Euitizi, Joseph, *Comments on the Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Proposed Rule*, 77 Fed. Reg. 22392, SAN MIGUEL ELEC. COOP., Docket No. EPA-HQ-OAR-2011-0660-9964, Jun. 25, 2012 (citing EPAAct §402(i) and saying "The Clean Coal Power Initiative . . . was created by the Energy Policy Act of 2005 . . . to provide hundreds of millions of dollars of federal funding to clean coal projects. However, understanding that technologies developed under this act would not be commercially available, Congress included limitations on using these technologies as part of NSPS or other CAA reviews . . .") (emphasis in original)).

modeling that assumes that CCS is unproven technology for commercial-scale power plants supports finding CCS to be proven technology for commercial-scale power plants.

The EPA has proposed to determine that CCS is technically feasible for new coal-fired power plants because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. For example there are several industrial projects in the U.S. that are currently capturing the CO₂ for use in enhanced oil recovery (EOR) or other applications. There have been numerous smaller-scale projects that have demonstrated the technology, and there are several full-scale projects – both in the U.S. and internationally – that are under construction today. Thus, the EPA has proposed to determine that partial CCS is the Best System of Emission Reduction (BSER) for new coal-fired power plants.

18. On December 19, EPA issued a draft guidance on EOR operations, "Draft Underground Injection Control Program Guidance on Transitioning Class II Wells to Class VI Wells," that suggests if the business model for a well or group of wells changes from enhanced recovery to permanent carbon storage, the wells may need to be re-permitted as Class VI wells.

a. Did EPA consider the cost of re-permitting and converting these wells, in the proposed GHG rule?

b. Isn't it true the CO₂ injection in EOR applications is the only possible scenario that is at all economical?

The proposed carbon pollution standards for new power plants do not change any of the requirements to obtain or comply with an Underground Injection Control (UIC) permit for facilities that are subject to EPA's UIC program under the Safe Drinking Water Act.

The EPA has proposed to determine that CCS is technically feasible for new coal-fired power plants because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. Facilities using carbon capture are doing different things with the captured CO₂, ranging from EOR to storage to using it for food products. While it is true that selling captured CO₂ for EOR can generate revenue and help offset the costs of capturing carbon, this does not mean power plants built in the future will have to use EOR – nor does this proposal require it.

19. Stringent regulations in the U.S. will also increase the likelihood that energy intensive industries will build in other countries with fewer environmental controls. How are you addressing the problem of carbon leakage to make sure these regulations do not in fact increase global GHG emissions?

The Clean Air Act directs the EPA to set performance standards that represent the "best system of emission reduction...adequately demonstrated," including, among other factors, costs.

20. I, along with others, sent three letters to EPA regarding the Agency's involvement in the development of the SCC estimates, including the Agency's participation in the Interagency Working Group. Your Director Atmospheric Programs testified that staff from that office participated in the IWG, assisting particularly in respect to the technical work and the modeling.

- a. Did you participate in any meetings of the IWG?
- b. Did any of your direct reports participate in or attend any of the meetings?
- c. Did you sign off on or approve any materials, technical analysis, or assistance that was provided by the Agency to the IWG?
- d. Are the models relied upon in developing the Social Cost of Carbon estimates published and available on EPA's website?
- e. Is the technical work and modeling conducted by EPA's Office of Atmospheric Programs for the IWG in the development of the SCC estimates publicly available including on EPA's website?
- f. Which of your Agency's offices participated, including the number of staff, hours, and other resources dedicated to such work, as well as any outside experts or consultants that provided input or comments?

I did not participate in any meetings of the IWG. The Office of the Administrator reviewed materials that EPA provided to the IWG. My role as Administrator did not begin until after the release of the updated SCC estimates in 2013.

The integrated assessment models used to develop the USG SCC estimates are documented within the peer reviewed literature and source code is available on the model developers' websites or upon request from the relevant developer. Each model is also described in detail in the 2010 and 2013 Technical Support Documents (TSD) available on OMB's website.

The 2010 TSD for the USG SCC estimates provides the documentation of the interagency decisions and the 2013 TSD documents the technical update. Both are available on OMB's website. The 2010 and 2013 TSDs provide a step-by-step description of the modeling exercise and also provide exhaustive documentation of how the USG's review identified, evaluated, and adopted the data, assumptions, and analytical framework used to develop the SCC estimates. Furthermore, consistent with the Administration's commitment to transparency, EPA has, upon request, provided to researchers and institutions more detailed output than is presented in the 2010 or 2013 TSD, as well as instructions, input files, and model source code.

EPA staff (economists and climate scientists) from the National Center for Environmental Economics in EPA's Office of Policy and the Office of Atmospheric Programs (within EPA's Office of Air and Radiation) provided technical expertise in climate science and economics to the workgroup as needed.

21. The interagency working group decided to focus on the *global* social cost of carbon even though OMB Circular A-4 requires the regulatory impact analyses to include an analysis of *domestic* costs and benefits, leaving international analysis optional.
 - a. What is the difference between the global and U.S.-only [domestic] social cost of carbon?
 - b. How will you balance domestic versus global estimates of the social cost of carbon in making decisions?

- c. Why doesn't the SCC only address the domestic cost as required by OMB?

EPA works with OMB to ensure that EPA is following guidance in assessing the costs and benefits of their agency actions. The use of a global value for the SCC is consistent with OMB guidance. As explained in the 2010 TSD, a global measure of SCC is appropriate in this context because emissions of greenhouse gases contribute to damages around the world and the world's economies are now highly interconnected. To reflect the global nature of the problem, the USG SCC estimates incorporate the full damages caused by carbon dioxide emissions and we expect other governments to consider the global consequences of their greenhouse gas emissions when setting their own domestic policies.

Senator James Inhofe

1. Ms. McCarthy, during your tenure at the EPA, has the Agency ever produced an estimate of the job losses that would be sustained across the entire economy as a result of a new regulation?

President Obama's Executive Order 13563 requires executive branch agencies to consider the effect of regulations on jobs. EPA is very concerned about the economic impacts, including the job impacts, of our regulations. That is why the EPA has been including an assessment of job impacts for all of its economically significant regulations.

Some business groups claimed that the Clean Air Act Amendments of 1990 themselves would cost at least 200,000 and up to two million jobs.⁶ In contrast to doomsday predictions, history has shown, again and again, that we can clean up pollution, create jobs, and grow our economy all at the same time. Since 1970, air pollution has declined 72% while the economy has grown 219%.⁷ Many of the industry-funded models that predict large job losses fail to include the jobs created through the investment in pollution reduction, pollution controls, and the benefits to public health and productivity. Overall, the peer-reviewed literature does not contain evidence that environmental regulation has a large impact on net employment (either negative or positive) in the long run across the whole economy.

Working with Senator Vitter, the EPA has agreed to convene a new EPA Science Advisory Board panel to advise EPA on how to conduct economy wide modeling, including assessment of employment impacts, of regulations. EPA issued a draft charge and analytic blueprint for this committee for public comment, and solicited nominations from the public for candidates to serve on the committee. We look forward to getting the further substantive input on how to advance our work on modeling the economic effects of air pollution reduction programs.

2. With respect to the EPA's New Source Performance Standards for electric generation units, did OMB, the Department of Energy, or any other agency in the federal government raise any concern or question that the rule's requirement to use Carbon Capture Sequestration technology may not yet be commercially demonstrated?

⁶ Hahn, Robert, and Wilbur Steger (1990). An Analysis of Jobs at Risk and Job Losses from the Proposed Clean Air Act Amendments (Pittsburgh: CONSAD Research Corporation).

⁷ EPA, Our Nation's Air – Status and Trends through 2008 (Feb 2010).

The U.S. Department of Energy (DOE) was part of the interagency review process, which was coordinated by the Office of Management and Budget (OMB). Interagency comments on the draft proposal are available in the docket.

Senator John Barrasso

1. A Bloomberg News story ran entitled "EPA Assertions on Carbon Capture Viability Sparked Concerns by White House Officials." The article, which ran on January 10, 2014, quotes from interagency comments prepared by the White House Office of Management and Budget. The article quotes the White House OMB as saying about your new rule that–

“EPA's assertion of the technical feasibility of carbon capture relies heavily on literature reviews, pilot projects, and commercial facilities yet to operate. We believe this cannot form the basis of a finding that CCS on commercial-scale power plants is ‘adequately demonstrated.’”

As stated before, the law requires that emission control performance standards must be “adequately demonstrated.” The White House is clearly saying that CCS is not adequately demonstrated.

What does the White House know that you haven't acknowledged and is the agency going to speak more definitively on this topic? If so, when?

The Office of Management and Budget coordinated interagency review of the draft proposal. Interagency comments and communications on the draft proposal are available in the docket.

The EPA has proposed that partial CCS is technically feasible for new coal-fired power plants because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. For example there are several industrial projects in the U.S. that are currently capturing the CO₂ for use in enhanced oil recovery (EOR) or other applications. There have been numerous smaller-scale projects that have demonstrated the technology, and there are several full-scale projects – both in the U.S. and internationally – that are under construction today. The information that the EPA relied on to make this determination is available in the preamble for the rule and the technical support document (TSD) available at this link: http://www2.epa.gov/sites/production/files/2014-01/documents/2013_proposed_cps_for_new_power_plants_tsd.pdf. Thus, the EPA has proposed to determine that partial CCS is the Best System of Emission Reduction (BSER) for new coal-fired power plants.

The EPA has received more than 2 million comments on this proposal and is reviewing and considering those as we work toward a final rule.

Senator Jeff Sessions

1. I have received many letters from constituents who are deeply troubled by the unwarranted, burdensome aspects of the President's climate agenda. A few examples are provided below, along with questions for you to answer specifically.

- a. **Jerry in Birmingham, Alabama** wrote: "I would like to know how [President] Obama and the EPA can pass laws that are closing the coal industry. There is no consideration about the impact on the middle class and our energy program. I thought Congress passed laws because each person in Congress represents the people in his district/state. We can't have one person setting regulations ..."

Please explain how, in your view, Congress has expressly authorized the Environmental Protection Agency to regulate carbon dioxide released from the combustion of coal and natural gas in electric generating units.

- b. **Leslie in Gardendale, Alabama** wrote: "The President is talking about helping the middle class yet his policies and laws are hurting the middle class by destroying middle class jobs related to the coal industry... The company I work for had 50 employees when the President took office and today we have 28." Similarly, **Steve in Winfield, Alabama** wrote: "If we really want to grow the economy and create good paying jobs, then why would we do anything to make coal more costly to mine and use? The main areas where coal mines are operating are areas that would be economically devastated if coal mining were non-existent. These areas have a blue collar work force ..."

Please explain your best estimate of the number of coal sector jobs that would be impacted by the portions of the President's climate plan that EPA intends to implement.

- c. **Keith in Fayette, Alabama** wrote: "With the Obama Administration's all-out war on coal, he is killing hundreds of thousands of jobs both directly and indirectly nationwide... This is a rare issue that touches every single person living in our state."

Please list every regulation proposed and/or finalized by EPA since January 21, 2009 that is likely to have an adverse impact on coal sector jobs in the United States.

The Supreme Court made clear in *Massachusetts v. EPA* and subsequent decisions that greenhouse gases are a pollutant under the Clean Air Act. The EPA is setting standards, under section 111 of the Clean Air Act, to reduce carbon pollution and protect the public health and welfare. Executive Order 13563 requires executive branch agencies to consider the effect of regulations on jobs. We are mindful of the economic effects, including job effects, of our regulations. That is why the EPA has been including an assessment of job impacts for all of its economically significant regulations.

2. Has EPA fully analyzed the economic impact of the President's Climate Action Plan, taking into account the "whole economy"? If so, can you give me a copy of that report? Has EPA fully analyzed the specific impact of the President's plan on blue collar, middle class jobs?

There are several actions in the President's Climate Action Plan that will require several U.S. government agencies to develop recommendations, propose new rules, augment existing

activities, and undertake processes that entail significant stakeholder outreach and public comment before final rules and programs are in place. Although the purpose of each action is clear, the specific details of each will be developed over time.

The EPA has been including an assessment of job impacts for all of its economically significant regulations.

3. I am informed that, according to a recent study, Alabama families spend an estimated average of 13% of their after-tax incomes on energy, and that of the 489,000 Alabama families with annual incomes of \$10,000 to \$30,000, one quarter of the state's population, spend an estimated average of 25% of their after-tax family budgets on energy. In light of these facts, can you assure me that the President's Climate Action Plan will not increase energy costs for low- and fixed income families in my state? Can you assure any other Senators that the Plan will NOT increase energy costs for low- and fixed-income families in their states?

The President's Climate Action Plan involves multiple agencies and strategies including plans to produce cleaner energy with existing technologies, deploy new clean energy technologies, and improve energy efficiency. It is important to recognize that a substantial portion of the plan focuses on reducing energy bills for families through efficiency improvement programs directed by other agencies. For example, the recently proposed Clean Power Plan promotes investment in energy efficiency and provides States with flexibility to design their own plans to reduce carbon pollution, reducing emissions while protecting electricity consumers. Any small change in electricity prices would be within normal, historical fluctuations and any short-term increase in what we pay every month on our electric bill will still keep our bills lower than they were in 2010. In fact, if states choose to take advantage of available opportunities to increase efficiency, we expect average electricity bills will be cut by 8 percent. That means that by 2030, the average American family will save almost \$9 on its electric bill every month.

4. Can you assure me that the President's Climate Action Plan will NOT increase energy costs for Alabama manufacturers?

The President's Climate Action Plan involves multiple agencies and strategies including plans to produce cleaner energy with existing technologies, deploy new clean energy technologies, and improve energy efficiency. Because these strategies are at various stages of development and implementation, generally, it is premature to speculate on the potential changes in energy costs, particularly at the state level. One action under the Climate Action plan is the proposed Clean Power Plan. This proposal specifically provides flexibility to states to meet their emission rate-based goal (in pounds of CO₂ per MWh of electricity generated) in the way that works best for that state. It can rely more or less heavily on specific measures such as efficiency or renewable energy, or even pursue others such as increases in transmission efficiency or new gas generation. The state can also choose the policy or portfolio of policies that works best to achieve the goal. EPA's assessment of energy costs under the proposal shows the opportunity for state actions taken to meet Clean Power Plan goals to lower costs. For example, our assessment shows that when the plan is fully implemented in 2030, residential electricity bills would be expected to be 8% lower than without the Clean Power Plan—saving Americans almost \$9 on an average monthly electric bill.

5. Even the mere threat of expensive new regulations can hinder job creation and economic growth. President Obama conceded this fact when, in 2011, he directed EPA to not move forward with reconsideration of the ozone standard "particularly as our economy continues to recover" (Pres. Obama, 9/2/2011). At the time, EPA's reconsideration of the ozone standard was considered to be one of the most expensive rules ever proposed by EPA, and it threatened thousands of jobs. It is also true that the ozone reconsideration imposed a tremendous burden on state and local governments, and cost taxpayers millions of dollars. On December 17th, I wrote you a letter, joined by all Republicans on this Committee, outlining these concerns and renewing a longstanding, unanswered request for an accounting by EPA of the costs it incurred as part of the ozone reconsideration process. EPA has had more than 2 years to answer our request, and during your confirmation process, you committed that you would answer. One day before our hearing, on January 15, 2014, EPA responded with a brief letter to my attention, declining to provide the requested information. Troublingly, EPA conceded that "...it is difficult for us to estimate, with any meaningful precision, the expenses and full-time equivalent employees used for the reconsideration of the 2008 standard specifically." This sounds like an admission by EPA that it can't provide Congress with an explanation about how much taxpayer funds were used in the ozone reconsideration process. Why can't an agency with thousands of employees produce a simple accounting of dollars and time spent on a major rulemaking effort? Would EPA be able to provide an accounting of all taxpayer

The health effects associated with ozone exposure include respiratory health problems ranging from decreased lung function and aggravated respiratory symptoms to increased emergency department visits, hospital admissions and premature death. To protect against these effects, the Clean Air Act requires EPA to review the NAAQS and their scientific basis at least every five years to determine whether revisions are appropriate.

EPA received input from a variety of stakeholders, both encouraging and discouraging us from reconsidering the standards. Then-EPA Administrator Lisa Jackson chose to reconsider the 2008 standards to ensure the nation's air quality standards were clearly grounded in science, protected public health with an adequate margin of safety, and were sufficient to protect the environment.

The EPA staff members who worked on the reconsideration of the 2008 standards are dedicated to understanding the science of public health problems from air pollution and advising the Administrator on how to set the standards. At any given time, the EPA staff may be working on some aspect of one or more of the NAAQS standards. The staff continually review health and environmental impacts of the pollutants identified in the Clean Air Act as NAAQS pollutants. During reconsideration of the 2008 standards, the EPA also held public hearings with a wide variety of stakeholders.

The EPA is always learning more about the implications of current emissions patterns for the distributions of population exposures and health risks. The Agency continues to apply some of the work from the reconsideration of the 2008 standards, in conjunction with the more recent review of the current scientific evidence, to the analysis that informs NAAQS decisions. For these reasons, it is difficult to estimate the expenses and full-time equivalent employees exclusively attributable to the reconsideration of the 2008 standards.

6. We have received official satellite temperature data for 2013, and those measurements show that global temperatures did not increase last year—continuing a trend going back to 1998. Do you dispute this fact—that global atmospheric temperatures, as measured in the lower troposphere, have not increased in over 15 years?

Recent years have been very warm compared to the historical record, whether examining tropospheric temperatures or surface temperatures. Even for the tropospheric record, which is particularly sensitive to year-to-year fluctuations from the El Niño Southern Oscillation, 2013 was the sixth warmest year on record globally, and the average of the past five years is warmer than any other five year period in the record (based on the same UAH (University of Alabama-Huntsville) dataset we believe you are referring to). For global surface temperatures, 2010 was the warmest year on record, and 2013 the 4th warmest.

Climate trends are best examined over long time periods (typically 30 years or more), and by examining multiple indicators of change. The U.S. National Academies, together with the Royal Society, recently released an overview of "Climate Change Evidence and Causes." This document discusses how, due to variability in ocean heat uptake, solar output, and other factors, decadal rates of change can be smaller or larger than long-term rates of change. The report finds that "a longer-term warming trend is still evident" when accounting for all data to the present day, and that "continued effects of a warming climate can also be seen in indicators such as increasing trends in ocean heat content and sea level rise, as well as in continued melting of Arctic sea ice, glaciers, and the Greenland ice sheet".

7. Your testimony seems to acknowledge that U.S. actions, alone, will not result in meaningful changes in global temperatures. Your written testimony provides: "The President's Plan recognizes that the United States must couple action at home with leadership abroad." Is it correct that, even if the President's entire climate agenda is implemented and his emissions reductions goals are achieved in full, there would be no significant difference in global temperatures 20, 50, or even 100 years from now (relative to current projections), unless China, India, and other large nations take similar steps to reduce their emissions by comparable amounts? While U.S. and European CO₂ emissions have declined or remained fairly stable since 2000, CO₂ emissions from China have increased by almost 170% since 2000. India is also increasing emissions dramatically. What firm commitments has the Administration obtained from China or India to reduce CO₂ emissions?

Climate change is a global problem that will require a global solution. All nations that are significant emitters of greenhouse gases will need to take the steps necessary to reduce their emissions in the near and long term. The United States must show leadership by taking steps necessary to reduce our emissions while at the same time encouraging and facilitating the reduction of emissions from other countries.

This is why one of the three pillars of the Climate Action Plan is to lead international efforts to combat global climate change and prepare for its impacts. As stated in the Climate Action Plan, "America must help forge a truly global solution to this global challenge by galvanizing international action to significantly reduce emissions (particularly among the major emitting countries), prepare for climate impacts, and drive progress through the international negotiations."

8. According to the IEA, there are over 2,300 coal-fired power plants worldwide. In its proposed CO₂ standard for new power plants, EPA proposed that U.S. coal-fired power plants be required to install carbon capture and storage (CCS) systems. Of the 2,300 coal-fired power plants in the world today, how many full scale CCS projects are operating presently?

The EPA has proposed to determine that CCS is technically feasible for new coal-fired power plants, because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. For example there are several industrial projects in the U.S. that are currently capturing the CO₂ for use in

enhanced oil recovery (EOR) or other applications. There have been numerous smaller-scale projects that have demonstrated the technology, and there are several full-scale projects – both in the U.S. and internationally – that are under construction today. Thus, the EPA has proposed to determine that partial CCS is the Best System of Emission Reduction (BSER) for new coal-fired power plants.

9. In a letter to me dated December 24, 2013, the State Department acknowledged a “recent slowdown in atmospheric warming,” but the President seems to deny that there is a slowdown in warming. Do you agree that we have currently experienced a period of at least 15 years without significant increases in global temperatures as measured in the lower troposphere? Have you discussed these facts concerning global temperatures with the President? Will you do so in the future to ensure his comments on the status of climate, as the nation’s Chief Executive, are accurate?

As noted above, a number of indicators show continued warming in the climate system, including temperatures in the lower troposphere.

Senator Mike Crapo

1. In your testimony, you mentioned “the President asked the EPA to work with states, utilities and other ~~key stakeholders to develop plans to reduce carbon pollution from future and existing power plants.~~” Additionally, you mentioned the eleven public listening sessions your agency held around the country as proposed regulations were developed. However, these listening session avoided many of the areas where the President’s Climate Action plan will likely have the most severe negative economic consequences.
 - a. Does the EPA not view our country’s top coal producing and utilizing states as “key stakeholders” in this policy debate?

Before issuing the Clean Power Plan , the EPA heard from more than 300 stakeholder groups from around the country, to learn more about what programs are already working to reduce carbon pollution, and what states think will or will not work for them. In addition, after the proposed rule was signed, during the week of July 29, the EPA conducted eight full days of public hearings in four cities. Over 1,300 people shared their thoughts and ideas about the proposal and over 1,400 additional people attended those hearings. The EPA is continuing to engage with a broad variety of stakeholders to help inform the final rule – including holding Q&A sessions and participating in dozens of individual meetings. These hearings and these meetings, with states, utilities, labor unions, nongovernmental organizations, consumer groups, industry, and others, reaffirmed that states are leading the way. The Clean Air Act provides the tools to build on these state actions in ways that will achieve meaningful reductions and recognizes that the way we generate power in this country is diverse and interconnected. The public comment period remains open and all comments submitted, regardless of method of submittal, will receive the same consideration.

2. You mentioned a threat to national security as a potential consequence of not vigorously implementing policies to combat climate change. A greater concern to me in the arena of national security, which history has shown, is the reliance on foreign energy resources from volatile regions of the world.
 - a. With the abundant energy resources in the U.S., including natural gas, coal and petroleum, and the subsequent threat posed by the President’s Climate Action Plan in utilizing these resources, how do you propose to promote our national security while undermining our energy security?

The President's plan will spark innovation across a wide variety of energy technologies, resulting in cleaner forms of American-made energy and cutting our dependence on foreign oil. Combined with the President's other actions to increase the efficiency of our cars and household appliances, the President's plan will help American families cut energy waste, lowering their gas and utility bills.

3. Dr. Judith Curry, PhD, Professor and Chair, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, mentioned in her testimony that reducing carbon emissions is not simply a "control knob" in reducing the threat of global climate change, as evidenced by the inconsistency between emissions and temperature forecasts over the past approximately fifteen years. Reducing carbon emissions is a central pillar of the President's Climate Action Plan.
 - a. If fully implemented, what would you anticipate the measurable gain, if any, the Administration's proposal would be on the issue of climate change?

The administration is already hard at work implementing The President's Climate Action Plan. However, several of the actions will require U.S. government agencies to develop recommendations, propose new rules, augment existing activities, and undertake processes that entail significant stakeholder outreach and public comment before final rules and programs are in place. Although the purpose of each action is clear, the exact form of each will be developed over time. Until recommendations, rulemakings, and other administrative activities for these specific actions are complete, it will not be possible to estimate the exact scale of emission reductions that will be achieved by each specific action.

Senator Deb Fischer

1. Administrator McCarthy, last September, seventeen state attorneys general and one state environmental commissioner wrote to you to express their concerns regarding what they called "a serious, ongoing problem in environmental regulation; the tendency of EPA to seek to expand the scope of its jurisdiction at the cost of relegating the role of the States to merely implementing whatever Washington prescribes, regardless of its wisdom, cost, or efficiency in light of local circumstances." Specifically the states highlight the limits of EPA's authority under the Clean Air Act for regulating existing sources.
 - a. Do you agree with these state officials that under the law, EPA's authority is limited to establishing a procedure by which the states submit plans for regulating existing sources?
 - b. Do you agree that while EPA is authorized to require states to submit plans containing performance standards, EPA may not dictate what those performance standards shall be, nor may EPA require states to adopt greenhouse gas performance standards that are not based on adequately demonstrated technology?

Under EPA's long-standing regulations implementing Section 111(d) of the Clean Air Act, it is the responsibility of the Administrator to determine the Best System of Emissions Reduction that has been adequately demonstrated.

2. Charles McConnell, former Assistant Secretary for Fossil Energy at the Department of Energy, recently stated before Congress and to the press that carbon capture and storage technologies are not

adequately demonstrated and commercially available and viable. His message is clear, that that carbon capture is not ready for a mandate, as has been done in EPA's NSPS proposal. Multiple Administration officials have refused to address Mr. McConnell's comments. What is your response to his claims? Is he right or wrong?

The EPA has proposed to determine that CCS is technically feasible for new coal-fired power plants, because all of the major components of CCS – the capture, the transport, and the injection and storage – have been demonstrated and are currently in use at commercial scale. For example there are several industrial projects in the U.S. that are currently capturing the CO₂ for use in enhanced oil recovery (EOR) or other applications. There have been numerous smaller-scale projects that have demonstrated the technology, and there are several full-scale projects – both in the U.S. and internationally – that are under construction today. Thus, the EPA has proposed to determine that partial CCS is the Best System of Emission Reduction (BSER) for new coal-fired power plants.

3. Media reports recently revealed that EPA's Science Advisory Board (SAB) raised multiple concerns with EPA about how it went about formulating its New Source Performance Standards. The reports say that the SAB wanted to undertake a formal review of how EPA went about the process, but EPA staff pressured the SAB not to do so. What is the purpose of having an SAB if EPA does not want it to do its job?

When the Science Advisory Board (SAB) and its workgroups raise questions, the EPA takes them seriously. We use the SAB's routine, transparent, and well-established processes to better understand the nature of the questions and how we can address them. An SAB workgroup asked for information on the potential adverse impacts of carbon capture and sequestration (CCS) in November 2013 and how that issue is addressed in the proposed Carbon Pollution Standards. The SAB's transparent, deliberative process provided an opportunity for us to engage in a dialogue to better understand the workgroup's concerns and to provide a clearer explanation of the scope of the proposed rule.

After consideration of the clarifying information and thorough discussion about the issues during several meetings of the SAB that were open to the public, the workgroup recommended to the full SAB that additional review of the science of sequestration was not necessary in the proposed Carbon Pollution Standards. The full SAB agreed with the workgroup's assessment that the EPA did not propose to set any new requirements for sequestration in the Carbon Pollution Standards and that peer review of the DOE cost studies was sufficient. In a memo dated January 29, 2014, the SAB informed the EPA that it will not undertake further review of the science supporting this action.

4. A new study by Life Cycle Associates (a firm that has done work under contract for EPA) found that average corn ethanol was reducing GHG emissions by 21% in 2005; yet, EPA's analysis suggests this level won't be achieved until 2022. The final rule for the RFS2 clearly indicated that EPA would update its GHG analysis as new information became available. A number of recent papers by academia, government, and industry show that corn ethanol's GHG performance is significantly better than assumed by EPA. But the Agency has not made a single change to its original GHG analysis to reflect advanced in the science. Why?

EPA has considered more recent data on the efficiency of dry mill corn ethanol plants as part of our petition process. EPA's more recent assessments of corn ethanol plants indicates that there are a number of facilities that meet the 20 percent greenhouse gas emission reduction threshold needed to qualify as renewable fuel. These initial approvals were based on adjustments to our March 2010

lifecycle greenhouse gas analysis to account for the new data provided by these plants. We will continue to adjust our analyses as such new data are provided and as we evaluate facilities in the future.

AL13-000-8603

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United States Senate
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, DC 20510-6111

August 7, 2013

Barry Breen
Deputy Assistant Administrator
Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

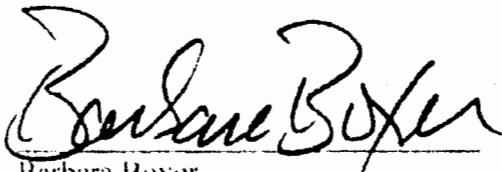
Dear Deputy Assistant Administrator Breen:

Thank you for appearing before the Committee on Environment and Public Works on June 27, 2013, at the hearing entitled, "Oversight of Federal Risk Management and Emergency Planning Programs to Prevent and Address Chemical Threats, Including the Events Leading Up to the Explosions in West, TX and Geismar, LA." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

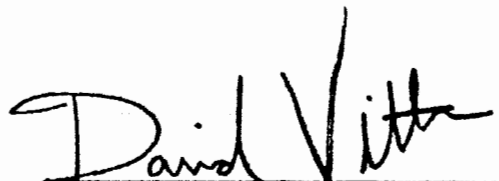
Enclosed are questions for you that have been submitted by Senators Boxer, Gillibrand, Vitter, and Crapo for the hearing record. Please submit your answers to these questions by COB August 21, 2013, to the attention of Mara Stark-Alcala, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Mara.Stark-Alcala@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Grant Cope of the Majority Staff at (202) 224-8832, or Dimitri Karakitsos of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,



Barbara Boxer
Chairman



David Vitter
Ranking Member

**Environment and Public Works Committee Hearing
June 27, 2013
Follow-Up Questions for Written Submission**

Questions for Breen

Questions from:

Senator Barbara Boxer

1. Mr. Breen, in 2012, labor, health, and environmental justice groups petitioned the Environmental Protection Agency to update its guidance on the Clean Air Act's "General Duty Clause," which the Agency issued in 2000, to enhance the use of inherently safer technologies.

Please describe the status of the Environmental Protection Agency's:

- a. Review of this petition;
 - b. Timeline for initiating and completing actions to consider and respond to the petition; and
 - c. Actions, if any, to require the consideration and use, where feasible, of inherently safer technologies under the Agency's risk management program.
2. Mr. Breen, in 2012, Environmental Protection Agency's National Environmental Justice Advisory Council wrote to EPA saying: "We have already witnessed in countless environmental justice communities what can, and has happened as chemical releases, explosions, fires, train derailments, and refinery releases have wreaked havoc upon local communities...." The Council recommended that EPA use its authorities under section 112(r) of the Clean Air Act to reduce or eliminate such catastrophic risks, where feasible.
 - a. Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?
 - b. Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.
 3. Mr. Breen, a 2002 Chemical Safety Board report, titled, "Improving Reactive Hazard Management" found an average of five fatalities a year in our nation related to incidents with reactive chemicals, and that more 50% of these incidents involved chemicals that were not covered by the Environmental Protection Agency or Occupational Safety and Health Administration safeguards. Among other issues, the Chemical Safety Board recommended that Environmental Protection Agency's risk management program "explicitly cover catastrophic reactive hazards that have the potential to seriously impact the public."
 - a. Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?
 - b. Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.

4. Mr. Breen, a 2011 Chemical Safety Board report, titled, "Public Safety at Oil and Gas Storage Facilities," investigated the safety of oil and gas storage tanks. This report found a lack of fencing, security, or other safety measures had contributed to 44 deaths and 25 injuries related to explosions at these sites (1983 to 2010). The Chemical Safety Board recommended Environmental Protection Agency use its general duty clause authority under the Clean Air Act to enhance safety, including by having owners or operators put signs warning of explosive hazards on or near tanks.

- a. Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?
 - b. Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.
-

Senator Kirsten Gillibrand

- 1. In my State, fire destroyed a Columbia County transformer recycling facility in August 2012. Thankfully, no one was killed or seriously injured in this fire, but the immediate aftermath lead to confusion and more questions than answers by local officials. Fire broke out in an area of this facility that had a high concentration PCB-containing oils. There was presence of sodium and toxic chemicals in this facility. West, TX should be a lesson that the danger posed to first responders who respond to a fire call with no prior knowledge of the elements and compounds inside of a facility risk life, property and threaten the environment. My concern remains as to what obligation these companies, handling elements like this, or transporting them to and from their facilities over our roads and rail, have to inform first responders to their presence?**

Senator David Vitter

1. Under what authority is EPA relying to try and access CSB investigative materials?
2. Do you agree with EPA's response to Senator Boxer's April 30th letter on the incident in West, TX, that ammonium nitrate fertilizer does not meet the criteria for regulating substances under the Clean Air Act RMP program?
3. Does EPA share information about regulated chemical facilities with other federal agencies responsible for oversight of activities at their sites? What is being done to identify other "outlier" facilities that have a poor compliance record?
4. How does EPA work with local communities and first responders to ensure information the Agency has collected is not only readily available, but in a form easily used by first responders at the local level in response to chemical facility accidents?
5. The "Information and Data Sharing" section of the Memorandum of Understanding ("MOU") between EPA and CSB states:

"The CSB is an independent, non-enforcement agency. To ensure that during the conduct of an investigation the CSB is not perceived as an extension of a state or federal enforcement investigation, the CSB will not participate in compliance and enforcement activities conducted by other agencies. To avoid duplicative efforts, interviews of witnesses and requests for documents will be conducted or requested jointly as often as possible; the CSB, EPA, the company, or person(s) involved in the investigation may request to proceed separately."

In your view, is this section of the MOU being properly adhered to?

6. Does the EPA have any plans to issue a regulation to define the scope of the General Duty Clause, as well as a complete list of chemicals of which it covers?
7. What provisions of the CAA Risk Management Plans do you believe are missing or inadequate enough to result in the Agency applying the General Duty Clause?
8. Does EPA have any plans on issuing any guidance or proposing any rule that would mandate the use or consideration of Inherently Safer Technologies?

Senator Mike Crapo

1. On Friday, February 8, 2013, the CSB's lead investigator in the August 6, 2012, fire at the Chevron refinery in Richmond, CA, was served with a federal grand jury subpoena that demanded his testimony as well as the production of "all notes, audio recordings, and transcripts of every interview conducted in furtherance of the U.S. Chemical Safety and Hazard Investigation Board's accident investigation."

The subpoena is the result of an EPA criminal investigation overseen by Special Agent Amy Adair of the EPA's Criminal Investigation Division (CID) in San Francisco.

What type of "chilling effect" will this have on the relationship between CSB and EPA?

2. It is my understanding that The CSB relies on goodwill to obtain the bulk of its witness statements, which are conducted voluntarily. If witnesses are aware that their statements are easily obtained for criminal investigations, they will be very reluctant to voluntarily speak with our investigators.
 - a. Would you agree or disagree with this statement?
 - b. How are the goals of each agency (CSB & EPA) different?

Questions on first responders to accidents:

3. What type of changes would EPA propose to get first responders hazard information that can help them perform their jobs?
4. How does the public "right to know" conflict with important information given to first responders?
5. How do you incorporate first responder input? What emphasis do you suggest on building relationship between stakeholders instead of information data dumps?
6. What educational outreach and training programs has EPA proposed to first responders and industry as a result of West and other industry accidents?
7. Has EPA talked to first responder as to their needs for reporting information, post the West, Texas accident?

In his testimony, Richard Webre, the Director of OHSEP proposes many changes to current EPCRA laws and enforcement.

8. Which recommendations do you support? (page 5 of Webre testimony)
9. EPA has a robust enforcement agenda in protecting the environment, how much money is directed toward enforcement efforts? And how much is afforded for outreach efforts?
10. Do you find, given this discrepancy, the stick is more effective than the carrot? How can EPA rectify this challenge?

- 11. Has EPA reached out to industry and first responder partners in outreach material? If no, why not? Do you have a timeline for action?**
 - 12. Are you aware of the Agriculture Retailers Association's Fertilizer Code of practice that is currently addressing the challenges faced with fertilizer storage and handling? How can government leverage this knowledge?**
 - 13. What progress have you made with other agencies like OSHA, DHS, CSB, DOT in outreach efforts? Is there a tangible product resulting from these talks? Is there a timeline?**
 - 14. Will there be more information sharing? How will this be achieved?**
-



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 09 2013

OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer, Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

Thank you for your August 7, 2013, letter requesting responses to Questions for the Record following the June 27, 2013, Committee on Environment and Public Works hearing entitled "Oversight of Federal Risk Management and Emergency Planning Programs to Prevent and Address Chemical Threats, Including the Events Leading Up to the Explosions in West, TX and Geismar, LA."

The responses to the questions are provided as an enclosure to this letter. If you have any further questions, please contact me or your staff may contact Carolyn Levine in my office at levine.carolyn@epa.gov or (202) 564-1859.

Sincerely,

A handwritten signature in black ink, appearing to read "Nichole Distefano", is written over a horizontal line.

Nichole Distefano
Deputy Associate Administrator
for Congressional Affairs

Enclosure

cc: The Honorable David Vitter, Ranking Member
Committee on Environment and Public Works

The EPA intends to address the issues of chemical facility safety and security raised by the petitioners within the context of the government's actions under the Executive Order. Plans for changes to regulations or guidance relative to chemical safety will be considered in accordance with the framework and timelines specified in that Order.

2. **Mr. Breen, in 2012, Environmental Protection Agency's National Environmental Justice Advisory Council wrote to EPA saying: "We have already witnessed in countless environmental justice communities what can, and has happened as chemical releases, explosions, fires, train derailments, and refinery releases have wreaked havoc upon local communities...." The Council recommended that EPA use its authorities under section 112(r) of the Clean Air Act to reduce or eliminate such catastrophic risks, where feasible.**
 - a. **Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?**
 - b. **Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.**

Response: Under the Clean Air Act Section 112(r), the EPA implements and enforces regulations at 40 CFR Part 68 (the RMP regulations) as well as the Clean Air Act Section 112(r)(1) General Duty Clause (GDC). Using these authorities, the EPA conducts approximately 450 facility inspections each year, with a priority given to inspecting "high risk" facilities.

When facilities are found to be out of compliance with regulatory or statutory requirements, the EPA may take an enforcement action. For example, a recent case involved a food processing facility in South San Francisco (U.S. v. Columbus Manufacturing). The EPA assessed a monetary penalty for violations of the CAA GDC of over \$685,000, and required significant safety improvements at the facility, including upgrading the facility's refrigeration system to a safer design.

The National Environmental Justice Advisory Council's letter requests the EPA to take additional actions, including changes to regulations and guidance. The actions requested by the Council are consistent with those to be considered under the President's recent Executive Order. The EPA intends to consider these requests within the context of the government's actions under Executive Order 13650, and plans for changes to regulations or guidance relating to chemical safety will be considered in accordance with the framework and timelines specified in that Order.

3. **Mr. Breen, a 2002 Chemical Safety Board report, titled, "Improving Reactive Hazard Management" found an average of five fatalities a year in our nation related to incidents with reactive chemicals, and that more than 50% of these incidents involved chemicals that were not covered by the Environmental Protection Agency or Occupational Safety and Health Administration safeguards. Among other issues, the Chemical Safety Board recommended that Environmental Protection Agency's risk management program "explicitly cover catastrophic reactive hazards that have the potential to seriously impact the public."**
 - a. **Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?**

- b. **Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.**

Response: The agency has taken a number of actions to improve reactive chemical safety in response to the 2002 Chemical Safety Board recommendation. For example, the EPA worked with the American Institute for Chemical Engineers Center for Chemical Process Safety (CCPS) to develop guidance on the safe handling of reactive materials. CCPS issued a safety alert entitled *Reactive Material Hazards*, which describes what facilities should do to fully understand the reactive properties of chemicals. CCPS also published *Essential Practices for Managing Chemical Reactivity Hazards*, which provides guidance on management systems and hazard assessment protocols for reactive materials. EPA staff participated in both of these efforts and worked to make the guideline widely available to chemical facilities.

The EPA continues to work with the National Oceanic and Atmospheric Administration (NOAA) to produce the Chemical Reactivity Worksheet (CRW), a free software program that allows users to identify most chemical reactivity hazards associated with their chemical processing and support operations. A recently released update of the program was downloaded more than 30,000 times on the first day of release. The CRW is available at: <http://response.restoration.noaa.gov/reactivityworksheet>.

The EPA also collaborated with the Occupational Safety and Health Administration (OSHA) and various industry associations to form the Chemical Reactivity Hazards Management Alliance. The Alliance provided education and outreach materials and conducted safety workshops for reactive chemical users with the objective to improve the overall safety of reactive chemical hazards within U.S. industry. Our work with CCPS, NOAA, OSHA, and various industry groups has helped increase public knowledge of reactive hazards and the means to abate those hazards. These efforts promote the design and maintenance of safer facilities as addressed by the CAA GDC.

Executive Order 13650 requires the EPA to review the chemical hazards covered by the RMP and determine if the program should be expanded to address additional regulated substances and types of hazards. Therefore, any plans for actions to be taken by the agency to modify the RMP regulation will be considered in accordance with the framework and timelines specified in that Order.

4. **Mr. Breen, a 2011 Chemical Safety Board report, titled, "Public Safety at Oil and Gas Storage Facilities," investigated the safety of oil and gas storage tanks. This report found a lack of fencing, security, or other safety measures had contributed to 44 deaths and 25 injuries related to explosions at these sites (1983 to 2010). The Chemical Safety Board recommended Environmental Protection Agency use its general duty clause authority under the Clean Air Act to enhance safety, including by having owners or operators put signs warning of explosive hazards on or near tanks.**
- a. **Please describe the actions, if any, that the Environmental Protection Agency has taken in response to this recommendation?**
- b. **Please describe the Environmental Protection Agency's timeline for initiating and completing actions to consider and respond to this recommendation.**

Response: The Chemical Safety Board (CSB) recommended the EPA publish a safety alert directed to owners and operators of exploration and production facilities that have flammable material storage tanks, advising them of their general duty clause responsibilities for accident prevention under the Clean

Air Act. The EPA accepted the CSB's recommendation and plans to publish an alert by the end of calendar year 2013.

Questions from Senator Gillibrand:

- 1. In my State, fire destroyed a Columbia County transformer recycling facility in August 2012. Thankfully, no one was killed or seriously injured in this fire, but the immediate aftermath lead to confusion and more questions than answers by local officials. Fire broke out in an area of this facility that had a high concentration of PCB-containing oils. There was presence of sodium and toxic chemicals in this facility. West, TX should be a lesson that the danger posed to first responders who respond to a fire call with no prior knowledge of the elements and compounds inside a facility risk life, property and threaten the environment. My concern remains as to what obligation these companies, handling elements like this, or transporting them to and from their facilities over our roads and rail, have to inform first responders to their presence?**

Response: The Emergency Planning and Community Right-to-Know Act (EPCRA) Sections 311 and 312 apply to facilities that are required to prepare or have available a material safety data sheet (MSDS) for hazardous chemicals defined under OSHA Hazard Communication Standard (HCS). A MSDS provides information on the hazards associated with the chemical and how to safely handle and manage the chemical. Section 311 requires the owner or operator of a facility to submit a MSDS for any hazardous chemical present at the facility above the reporting thresholds specified in the regulations, to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC) and the local fire department. Section 312 requires the owner or operator of the facility subject to Section 311 to submit a hazardous chemical inventory form (Tier II form) annually to the SERC, LEPC and the fire department on the hazards, amounts and locations of hazardous chemicals present at the facility above the reporting thresholds. Facilities are required to provide specific locations of hazardous chemicals at the facility. In addition, under Section 312(f) facilities are required to provide access to the fire department to conduct on-site inspections of facilities subject to Sections 311 and 312.

The information reported on the Tier II form includes information about hazardous chemicals present during the previous calendar year. Reporting thresholds are codified in 40 CFR part 370. Emergency planners and responders currently use the information reported on the Tier II form to develop or modify community emergency plans because the Tier II form contains information on extremely hazardous substances defined under EPCRA Section 302 and on other OSHA hazardous chemicals.

Only hazardous chemicals defined under the OSHA Hazard Communication Standard (HCS) are subject to EPCRA Sections 311 and 312 reporting requirements. Some chemicals are exempted from MSDS requirements under OSHA HCS and therefore exempted from EPCRA Sections 311 and 312. For example, hazardous waste regulated under the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act), drugs regulated under the Food, Drug and Cosmetic Act, articles, wood or wood products, etc. If any such chemicals are present at a facility, then these chemicals would not be reported under Sections 311 and 312. EPCRA does not give the EPA authority to require facilities to report non-OSHA hazardous chemicals on the Tier II form.

Under EPCRA section 302, facilities are required to provide notification to the SERC and the LEPC of the presence of EHS at or above its threshold planning quantity (TPQ). EHSs and TPQs are listed in 40 CFR part 355. LEPCs use this information to develop or modify the local emergency response plan. PCB-transformer oil is not an EHS, so notification is not required under Section 302. However, these types of facilities may have EHSs present which may require notification under Section 302. Even if there are no EHSs present at these types of facilities, Section 302(b)(2) authorizes the Governor or the

SERC to designate additional facilities which would be subject to emergency planning notification requirements, after public notice and comment. Once these facilities have been so designated, under Section 303, the LEPC may request the facility owner or operator to provide information necessary for developing and implementing the community emergency plan. The EPA continues to encourage SERCs and LEPCs to exercise their authorities to designate such facilities to be subject to emergency planning notification.

EPCRA Section 327 exempts substances in transportation or stored incident to transportation, except for Section 304 release notification requirements. Therefore, substances in transportation or stored incident to transportation would not be reported under Sections 302, 311 and 312. However, the provisions in Section 303 state that LEPCs should include in their local emergency response plan routes used for transporting EHSs in their district. LEPCs have the authority under Section 303 to request any information necessary, which may include transportation routes of EHSs for developing or modifying the community emergency plan.

Questions from Senator Vitter

- 1. Under what authority is EPA relying to try and access CSB investigative materials?**

Response: The EPA exercises authority under the Clean Air Act (CAA) and other pollution control statutes when it seeks relevant information held by other federal, state, or local governmental entities. For example, 42 U.S.C. § 7412(r)(6)(Q) provides “any records reports or information obtained by the [Chemical Safety] Board shall be available to the Administrator.”

- 2. Do you agree with EPA’s response to Senator Boxer’s April 30th letter on the incident in West, TX, that ammonium nitrate fertilizer does not meet the criteria for regulating substances under the Clean Air Act RMP program?**

Response: Ammonium nitrate fertilizer is not currently regulated under the RMP provisions as it did not meet the listing criteria that the EPA used to establish the list of regulated substances. As explained more fully in the rulemaking notices establishing the list in 40 CFR 68.130, EPA’s current criteria focus on acutely hazardous and highly flammable gases and liquids. See 59 FR 4478, 4493 (Jan. 31, 1994); 63 FR 640, 644 (Jan. 6, 1998). Ammonium nitrate meets neither set of criteria. Within certain constraints, the EPA has authority to add substances to the RMP list via notice and comment rulemaking. In listing substances, CAA Section 112(r)(4) requires the EPA to consider specific factors including the severity of any acute adverse health effects associated with accidental releases of the substance, the likelihood of accidental releases of the substance, and the potential magnitude of human exposure to accidental releases of the substance.

- 3. Does EPA share information about regulated chemical facilities with other federal agencies responsible for oversight of activities at their sites? What is being done to identify other “outlier” facilities that have a poor compliance record?**

Response: The EPA shares information about regulated chemical facilities with other federal agencies responsible for oversight at the same sites. The EPA maintains a national database of risk management plans (RMPlans) submitted to the agency by regulated facilities, and makes those data available to other federal, state, and local agencies, as permitted by law. RMPlan data are shared with the Department of

Homeland Security (DHS) and its component agencies (e.g. the U.S. Coast Guard), the Department of Labor, the CSB, the Department of Justice, the Department of Defense, the Department of Transportation's Pipeline and Hazardous Materials Safety Administration and others. DHS recently conducted a crosswalk of RMPlan facilities and Chemical Facility Anti-Terrorism Standards (CFATS) facilities as part of ongoing federal chemical safety and security efforts.

The EPA performs periodic reviews to identify facilities that should have filed an RMPlan and implemented a risk management program by comparing the list of current RMP facilities against other available databases, such as Toxic Release Inventory (TRI) data collected under the Emergency Planning and Community Right-to-Know Act (EPCRA), state EPCRA Tier 2 chemical inventory databases where available, and other databases such as the DHS Chemical Facility Anti-Terrorism Standards Top-Screen database, which DHS has recently made available to the EPA. The EPA also conducts approximately 450 RMP facility inspections each year, focusing on high-risk chemical facilities. Where facilities are found to be out of compliance with regulatory or statutory requirements, the EPA may take an appropriate enforcement action.

4. **How does EPA work with local communities and first responders to ensure information the Agency has collected is not only readily available, but in a form easily used by first responders at the local level in response to chemical facility accidents?**

Response: The EPA works with local communities and first responders to provide chemical hazard information in various ways:

- The EPA makes the RMPlan database available to State Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs), and other state and local authorities as requested. Authorized users may obtain these data either on a data DVD or through on-line access via EPA's Central Data Exchange.
- The EPA provides RMP inspector training to state and local agencies with delegated authority to implement the 40 CFR Part 68 RMP regulations, and as resources allow, the EPA also provides such training to non-delegated state and local agency representatives. The EPA frequently invites state and local agency officials and first responders to participate on RMP inspections. The agency is also developing on-line EPCRA training for SERCs and LEPCs and plans to deploy that training in FY 2014.
- The EPA and the National Oceanic and Atmospheric Administration (NOAA) developed the Computer-Aided Management of Emergency Operations (CAMEO) suite of software applications to provide local emergency planners and responders with a set of computer tools to assist them in planning for and managing hazardous chemical emergencies. CAMEO includes a chemical database containing comprehensive hazard information on over 6000 chemicals and allows users to store and manage information about chemicals in their communities. The software also includes an atmospheric dispersion modeling program to estimate the impact distances of toxic vapor clouds, fires and explosions, and a mapping application that people can use to quickly create, view, and modify maps containing chemical facilities along with additional mapping layers (e.g., schools, facilities, response assets).
- Via the RMP Reporting Center and EPA Call Center, the EPA provides ongoing support to state and local agencies and others to answer questions regarding implementation of the RMP and EPCRA, access to and use of the RMP National Database, and use of related EPA software tools such as CAMEO, EPCRA Tier II Submit, RMP*Comp, and others.
- Although the EPA does not collect the Section 312 EPCRA Emergency and Hazardous Chemical Inventory (Tier II) Forms, which provide information to state and locals on the amounts and locations of hazardous chemicals at a facility, on July 3, 2012, the EPA amended the required format for these forms

in response to stakeholders' requests. The changes make the forms more useful for state, local, and tribal agencies and reporting easier for facilities.

- The EPA frequently participates in SERC and LEPC conferences and workshops. The EPA also attends National Association of SARA Title III Program Officials (NASTTPO) conferences to provide regulatory and policy updates on EPCRA and other preparedness and prevention activities. NASTTPO members include SERCs, Tribal Emergency Response Commissions (TERCs), LEPCs and other emergency management and response officials. During these conferences, these entities suggest ways the EPA could provide more information from facilities that would be valuable for emergency planning and response.
- The EPA also manages a hotline to answer questions from the regulated community, SERCs, LEPCs, first responders and other emergency management officials on EPCRA and RMP.
- The EPA co-chairs thirteen Regional Response Teams (RRTs) in the U.S., each representing a particular geographic region (including the Caribbean and the Pacific Basin). RRTs are composed of representatives from field offices of the federal agencies that make up the National Response Team, as well as state representatives. RRTs provide a forum for federal agency field offices and state agencies to conduct response planning, training, and coordination for hazardous chemical incidents and major oil spills.
- U.S. EPA and DHS representatives as part of an interagency working group met with a group of firefighters in New Jersey on June 27, 2013 to engage them on emergency preparedness and response issues that they felt needed to be addressed to safely respond to chemical incidents at facilities in their communities. Information gathered from this dialogue will be used to develop a plan to support and further enable efforts by federal, state, and local authorities coordinating with chemical facilities to improve chemical facility safety and security as discussed in the Executive Order.
- The EPA is working to ensure wide distribution of the August 30, 2013, updated Ammonium Nitrate Advisory.

The issue of coordination and information sharing with local communities and first responders is one of the key issues to be addressed in Executive Order 13650 on "Improving Chemical Facility Safety and Security." The Order requires the EPA and other agencies to identify ways to improve coordination among the federal government, first responders, and state, local, and tribal entities, to identify opportunities and mechanisms to improve response procedures and enhance information sharing between chemical facilities, local authorities, and responders, and other actions. Therefore, the agency intends to address any plans for changes and improvements in its work with local communities and first responders within the framework and timelines specified in the Order.

5. The "Information and Data Sharing" section of the Memorandum of Understanding ("MOU") between EPA and CSB states:

"The CSB is an independent, non-enforcement agency. To ensure that during the conduct of an investigation the CSB is not perceived as an extension of a state or federal enforcement investigation, the CSB will not participate in compliance and enforcement activities conducted by other agencies. To avoid duplicative efforts, interviews of witnesses and requests for documents will be conducted or requested jointly as often as possible; the CSB, EPA, the company, or person(s) involved in the investigation may request to proceed separately." In your view, is this section of the MOU being properly adhered to?

Response: The EPA and the CSB share a mission to prevent harm to public health and the environment. The current MOU provides a framework by which these goals can be met, however, to help further

support information sharing, on August 1, 2013, the White House issued Executive Order 13650 entitled "Improving Chemical Facility Safety and Security." The Order establishes a Working Group charged with enhancing coordination and information sharing regarding chemical safety between federal entities and between federal, state, and local governments. One charge is to consult with the CSB and determine what, if any changes are required to existing Memoranda of Understanding and processes between the CSB and various agencies (EPA, OSHA, and the Bureau of Alcohol, Tobacco and Firearms) "for timely and full disclosure of information." The group is consulting with CSB regarding Memoranda of Understanding and other processes to ensure timely and full disclosure of information needed by all agencies that share an environmental and public health protection mission.

6. **Does the EPA have any plans to issue a regulation to define the scope of the General Duty Clause, as well as a complete list of chemicals of which it covers?**

Response: The General Duty Clause (GDC) is a broad, performance-based, self-enabling requirement that appears to reflect the Congressional intent that the owners and operators of chemical handling facilities have and must take primary responsibility for the prevention of chemical accidents from recognized hazards, including hazards that may not be identified or substances that may not be listed, in 112(r) regulations. The EPA does not have plans to define the scope of the GDC by regulation, either by specifying a limited set of covered hazards or by identifying a limited number chemicals covered by the GDC through an implementing regulation. Such a regulation could limit the scope of the GDC and relieve facilities of that responsibility.

The statute itself and its legislative history help define the scope of the General Duty Clause and provide guidance to the EPA and all stakeholders on its implementation. Congress patterned the CAA GDC after the general duty clause of the Occupational Safety and Health (OSH) Act. The OSH Act general duty has been enforced to promote worker safety. As noted by the 101st Congress, the Occupational Safety and Health Administration cites the OSH Act general duty provision when there is no specific applicable OSHA regulation or standard and when an employer is aware that a hazard exists (Senate Environment and Public Works, Report 101-228, at 209 (1989)) "Senate Report." The CAA directly references the OSH Act general duty provision as informing the nature of the duty under the CAA GDC. Section 112(r)(1) provides that facilities have a general duty "in the same manner and to the same extent as" the general duty in the OSH Act.

In accordance with the general duty clause of the OSH Act, an employer must "(1)...render a workplace free of a hazard; (2) the hazard [must be] recognized either by the cited employer or generally within the employer's industry; (3) the hazard was causing or was likely to cause death or serious harm; and, (4) there was a feasible means by which the employer could have eliminated or materially reduced the hazard (Secretary of Labor v. Duriron Co., 11 OSHC (BNA) 1405, 1407 (OSHRC 1983) Senate Report at 209). For purposes of complying with the CAA GDC, these same responsibilities apply to owner/operators of stationary sources that have extremely hazardous substances under the CAA GDC. *Id.* Like the OSH Act general duty, the CAA GDC functions as a gap-filler when a serious hazard is recognized by a source or within the source's industry and there is not a specific regulation addressing that hazard. *See Id.* Therefore, issuing a regulation on the scope of the GDC would be contrary to the design of the statute.

Specifically with regard to the listing of chemicals, while Congress required EPA to issue a list of substances and thresholds to implement the risk management plan requirements of CAA 112(r)(7), it left the substances potentially covered by the CAA GDC open-ended. The guidance at the time of enactment

was that “[e]xtremely hazardous substances would include, but are not limited to” the list of substances that covered in the risk management plan requirements, all extremely hazardous substances identified under the Emergency Planning and Community Right-to-Know Act, and “other agents which may or may not be listed or otherwise identified by any Government agency” that may cause death, injury, or serious property damage in an accidental release (Senate Report at 211). The Senate provided further guidance by saying that “the release of any substance which causes death or serious injury . . . or which causes substantial property damage . . . would create a presumption that such substance is extremely hazardous” (Id.). The EPA has implemented the GDC consistent with this intent and refrained from listing specific chemicals, since the earliest days after enactment of section 112(r) (59 Fed. Reg. 4478, 4481 (Jan. 31, 1994)). Consistent with the nature of the GDC described above, establishing a limited list of substances subject to the GDC by EPA would appear to be contrary to the design of the statute.

7. What provisions of the CAA Risk Management Plans do you believe are missing or inadequate enough to result in the Agency applying the General Duty Clause?

Response: The RMP and the GDC have distinct functions that serve to prevent chemical accidents. For sources covered by both, the RMP imposes greater and more specific obligations than the GDC. However, the Risk Management Program applies only to stationary sources holding within a process more than a threshold quantity of any of 140 listed substances, whereas the GDC is not limited to a specific list of substances (i.e., the GDC applies to all RMP substances and any other extremely hazardous substance) or threshold quantities.

As provided in the statute, the focus of the RMP is on substances that “pose the greatest risk of causing death, injury, or serious adverse effect on human health or the environment from accidental releases” (CAA 112(r)(3)), and on quantities known to cause the effects for which the substance was listed (CAA112(r)(5)).

The GDC, as described in the answer to question #6, is broader in its scope and is intended to include chemicals that, due to case specific factors, pose serious risks [(see 63 Fed. Reg. 640, 642 (January 6, 1998)) (“The general duty clause of section 112(r)(1) would apply when site-specific factors make an unlisted chemical extremely hazardous”)]. This necessarily means that the GDC applies in situations where the RMP regulation does not apply, but does not demonstrate a deficiency in EPA’s authority under the RMP program.

8. Does EPA have any plans on issuing any guidance or proposing any rule that would mandate the use or consideration of Inherently Safer Technologies?

Response: The EPA has received input from some stakeholders regarding this issue. In a petition dated July 25, 2012, various groups asked the EPA for a rulemaking and interim guidance on this issue. The EPA continues to evaluate this petition and is currently considering what actions to take.

Executive Order 13650, “Improving Chemical Facility Safety and Security,” issued August 1, 2013, requires federal agencies, including the EPA, to among other things, “develop options for improved chemical facility safety and security that identifies improvements to existing risk management practices through agency programs, private sector initiatives, government guidance, outreach, standards, and regulations.” Within 90 days of developing the options above, the EO Working Group will engage key stakeholders to discuss the options and within 90 days of completing this outreach and consultation

effort, will develop a plan for implementing the practical and effective improvements to chemical risk management.

The Order further requires the EPA and the Department of Labor to, "review the chemical hazards covered by the Risk Management Program (RMP) and the Process Safety Management Standard (PSM) and determine if the RMP or PSM can and should be expanded to address additional regulated substances and types of hazards. In addition, the EPA and the Department of Labor shall develop a plan, including a timeline and resource requirements, to expand, implement, and enforce the RMP and PSM in a manner that addresses the additional regulated substances and types of hazards."

The Order also requires agencies to "convene stakeholders, including chemical producers, chemical storage companies, agricultural supply companies, State and local regulators, chemical critical infrastructure owners and operators, first responders, labor organizations representing affected workers, environmental and community groups, and consensus standards organizations, in order to identify and share successes to date and best practices to reduce safety risks and security risks in the production and storage of potentially harmful chemicals, including through the use of safer alternatives, adoption of best practices, and potential public-private partnerships." The EPA intends to consider the petitioners' requests within the context of the government's actions under the Executive Order.

Questions from Senator Crapo

1. On Friday, February 8, 2013, the CSB's lead investigator in the August 6, 2012, fire at the Chevron refinery in Richmond, CA, was served with a federal grand jury subpoena that demanded his testimony as well as the production of "all notes, audio recordings, and transcripts of every interview conducted in furtherance of the U.S. Chemical Safety and Hazard Investigation Board's accident investigation." The subpoena is the result of an EPA criminal investigation overseen by Special Agent Amy Adair of the EPA's Criminal Investigation Division (CID) in San Francisco. What type of "chilling effect" will this have on the relationship between CSB and EPA?

Response: The EPA and the CSB share a mission to prevent harm to public health and the environment and maintaining an effective working relationship between our agencies is important to the EPA. To help further support information sharing, on August 1, 2013, the White House issued Executive Order 13650 entitled "Improving Chemical Facility Safety and Security." The Executive Order establishes a Working Group charged with enhancing coordination and information sharing regarding chemical safety between federal entities and between federal, state, and local governments. One charge is to consult with the CSB and determine what, if any changes are required to the existing Memoranda of Understanding and processes between the CSB and various agencies (EPA, OSHA, and the Bureau of Alcohol, Tobacco and Firearms) "for timely and full disclosure of information." The group will be consulting with CSB regarding Memoranda of Understanding and other processes to ensure timely and full disclosure of information needed by all agencies that share an environmental protection mission.

2. It is my understanding that the CSB relies on goodwill to obtain the bulk of its witness statements, which are conducted voluntarily. If witnesses are aware that their statements are easily obtained for criminal investigations, they will be very reluctant to voluntarily speak with our investigators.
 - a. Would you agree or disagree with this statement?

b. How are the goals of each agency (CSB & EPA) different?

Response: Many agencies conduct voluntary interviews. We understand that generally, agencies have been able to share information with criminal investigators without a material adverse impact on their ability to obtain witness information needed to accomplish their mission in a timely fashion. The EPA continues to work with the CSB recognizing the sensitivities surrounding this concern.

The goals of the CSB and the EPA are the same in that both agencies work to prevent harm to public health and the environment, however, the CSB and the EPA employ different methods to achieve these goals. The CSB conducts in-depth root cause investigations and issues public reports and recommendations on how to prevent such accidents in the future, while the EPA performs similar investigative and technical assistance functions with additional emphasis on civil and criminal enforcement actions to prevent and deter future violations and emergency preparedness activities to improve state and local response capabilities.

Questions on first responders to accidents:

3. What type of changes would EPA propose to get first responders hazard information that can help them perform their jobs?

Response: The EPA is working on this issue pursuant to the directives of Executive Order 13650 on Improving Chemical Facility Safety and Security. As part of this effort, the EPA is seeking input from State Emergency Response Commissions (SERCs), and Local Emergency Planning Committees (LEPCs), and local responders whether information currently available is sufficient and in the best form to support their work on emergency planning and response.

4. How does the public "right to know" conflict with important information given to first responders?

Response: It is unnecessary for the public "right to know" provisions under the Emergency Planning and Community Right-to-Know Act (EPCRA) to conflict with information given to first responders. EPCRA Sections 311 and 312 requires the owner or operator of a facility to submit information on the hazards, amounts and locations of OSHA hazardous chemicals at the facility to the SERC, LEPC, and the local fire department. The hazardous chemical inventory reporting under Section 312 is an annual requirement for facilities to these entities. Section 312(f) authorizes the fire department to conduct on-site inspection of facilities subject to Section 312. Under this provision, facilities are required to provide specific location information on hazardous chemicals at the facility during the inspection as well as on the Tier II form.

5. How do you incorporate first responder input? What emphasis do you suggest on building relationship between stakeholders instead of information data dumps?

Response: EPCRA authorizes LEPC's to develop emergency response plans as required under Section 303. LEPC membership could usefully consist of elected state and local officials, law enforcement, civil defense, firefighters, first aid, health, local environmental, hospital, transportation personnel, broadcast and print media, community groups and owners and operators of facilities subject to the emergency planning notification provisions of EPCRA. Under Section 303, facilities are required to provide the

name of a representative, facility emergency coordinator, who will participate in the emergency planning process.

The statute allows facility owners or operators to be part of the LEPC which would involve participating in the development of emergency plans. The requirement under Section 303 also ensures that owners and operators of facilities are involved in preparing and informing the community as well as first responders of potential risks.

Facilities subject to the Clean Air Act 112(r)(7) provisions are also required to coordinate their emergency response actions with the local emergency planning and response organizations. This requirement assists in ensuring that the facility and community planning efforts are coordinated, which will improve both plans, thereby facilitating effective response actions when releases occur.

The EPA continues to provide technical assistance to facilities and state and local officials to comply with the provisions under EPCRA and RMP.

6. What educational outreach and training programs has EPA proposed to first responders and industry as a result of West and other industry accidents?

Response: The EPA, in cooperation with other federal agencies including OSHA and ATF, has updated and expanded its Chemical Safety Advisory for Ammonium Nitrate, which primarily focuses on safe handling, storing and management of solid ammonium nitrate. It can be found at: <http://www.epa.gov/emergencies/content/rmp/index.htm>. The advisory also provides links to many other safe practices that have been developed for various uses of ammonium nitrate by industry groups and standard setting organizations.

EPA's regional offices are in direct contact with SERCs and many LEPCs. The regions hold conferences and information sessions for LEPCs, other planners and responders as well as participate in the LEPC workshops and exercises.

The EPA publishes guidance and policy memos as well as frequently asked questions to assist planners and responders in becoming familiar with requirements under EPCRA. The EPA is also developing on-line training on EPCRA and its implementing regulations for planners and responders, which will be available by the end of 2013.

7. Has EPA talked to first responders as to their needs for reporting information, post the West, Texas accident?

Response: Yes, the EPA has conferred both by conference calls and in person. For example, the EPA and DHS representatives, as part of an interagency working group, met with a group of firefighters in New Jersey on June 27, 2013, to engage them on emergency preparedness and response issues that they felt needed to be addressed to safety respond to chemical incidents at facilities in their communities. Information gathered from this dialogue will be used to develop a plan to support and further enable efforts by federal, state, and local authorities coordinating with chemical facilities to improve chemical facility safety and security as discussed in Executive Order 13650.

In his testimony, Richard Webre the Director of OHSEP, proposes many changes to current EPCRA laws and enforcement.

8. Which recommendations do you support? (page 5 of Webre testimony)

Response: The EPA is evaluating the recommendations for improving emergency planning and response to chemical accidents. We hope for further discussion of his recommendations as part of Executive Order 13650's goal of improving operational coordination with state, local and tribal partners and enhancing information collection and sharing.

9. EPA has a robust enforcement agenda in protecting the environment, how much money is directed toward enforcement efforts? And how much is afforded for outreach efforts?

Response: The agency strives to balance our outreach and enforcement programs to ensure that SERCs, LEPCs and fire departments have the information they need to understand and address the chemical risks in their community while ensuring facilities are complying with the regulations and providing the information the local community needs.

10. Do you find, given this discrepancy, the stick is more effective than the carrot? How can EPA rectify this challenge?

Response: See response to Question 9 above.

11. Has EPA reached out to industry and first responder partners in outreach material? If not, why not? Do you have a timeline for action?

Response: Yes, the EPA has long-standing collaborative relationships with industry groups and our state and local first responder partners. We also work with the National Association of SARA Title III Program Officials (NASTTPO) and attend state and local conferences and workshops to identify stakeholder needs with regard to information, outreach materials and tools. Some examples of our working with our partners to develop and provide outreach material include:

- The EPA and the National Oceanic and Atmospheric Administration (NOAA) developed the Computer-Aided Management of Emergency Operations (CAMEO) suite of software applications to provide local emergency planners and responders with a set of computer tools to assist them in planning for and managing hazardous chemical emergencies. CAMEO includes a chemical database containing comprehensive hazard information on over 6000 chemicals and allows users to store and manage information about chemicals in their communities. The software also includes an atmospheric dispersion modeling program to estimate the impact distances of toxic vapor clouds, fires and explosions, and a mapping application that can be used to quickly create, view, and modify maps containing chemical facilities along with additional mapping layers (e.g., schools, facilities, response assets).
The EPA has published numerous fact sheets and chemical safety alerts to inform industry, first responders, and other stakeholders about important chemical safety matters. For example, the EPA, OSHA and ATF recently collaborate to update and republish EPA's Chemical Safety Advisory for Ammonium Nitrate (see response to Question 6).
- The EPA maintains a website containing policy memos, frequently asked questions and answers, and a Hazardous Materials Planning Guide and Exercise Program developed by the National Response

Team (NRT) to assist state and local officials with the development of their state and local emergency response plans and to assist them with implementation of the EPCRA program.

- The EPA manages a hotline to answer questions on EPCRA and RMP and their implementing regulations from the regulated community, SERCs, LEPCs, planners and responders.
- The EPA worked with industry trade associations to develop risk management program guidance for various industry sectors regulated under the RMP rule, including chemical warehouses and distributors, ammonia refrigeration facilities, propane facilities, water and wastewater treatment plants, and agricultural retail facilities.
- The EPA participates in development of various consensus standards and guidelines relating to hazardous chemical safety. For example, EPA staff participate on the National Fire Protection Association (NFPA) Committee on Hazardous Materials (NFPA 400), the NFPA Committee on Liquefied Petroleum Gas (NFPA 58), and the American National Standards Institute/Compressed Gas Association Committee on Safety Requirements for the Storage and Handling of Anhydrous Ammonia (ANSI/CGA K-61.1), and have participated in the development of numerous chemical process safety guidelines developed by the American Institute of Chemical Engineers Center for Chemical Process Safety (AIChE/CCPS).
- The EPA is in the process of developing on-line training on EPCRA and its implementing regulations, which will provide LEPCs, SERCs, TERCs, and other stakeholders with easy access to comprehensive information on EPCRA. The EPA intends to make this training available in early 2014.

Outreach and information sharing with industry and first responders is one of the key issues to be addressed in the President's Executive Order 13650 on Improving Chemical Facility Safety and Security. The Order calls on the EPA and other agencies to convene stakeholders, including industry, first responders and others in order to improve collaboration, information sharing, and response procedures, and to identify best practices to reduce safety and security risks in the production and storage of potentially harmful chemicals. Therefore, the agency intends to address any plans for changes and improvements in its work with industry and first responders within the framework and timelines specified in the Order.

12. Are you aware of the Agriculture Retailers Association's Fertilizer Code of practice that is currently addressing the challenges faced with fertilizer storage and handling? How can government leverage this knowledge?

Response: Yes. The ARA Fertilizer Code of Practices could be leveraged to help facilities establish basic Environmental, Health and Safety and Security (EHS&S) performance practices. This management system is under development by ARA and to assist ARA. The EPA is providing ARA with educational and training materials and inspection/audit checklists used by EPA officials that would be applicable to fertilizer facilities storing and handling anhydrous ammonia and ammonium nitrate fertilizers. For example, the *myRMP* suite of compliance assistance tools (<https://www.asmark.org/myRMP/>) was specifically developed by the Fertilizer Institute and Asmark Institute with the support of the EPA to provide retail agricultural facilities with industry-standard information to assist in the preparation and maintenance of the RMP for their facilities.

Best practices developed by trade associations can also be leveraged for use by having the EPA incorporate them into our Chemical Safety Alerts and Advisories. The EPA publicizes chemical alerts and advisories by placing them on our Website, emailing to other trade association groups, distributing via a listserv and to National Association of SARA Title III Program Officials. EPA regional offices also distribute the information in outreach and compliance seminars they conduct for industry, during visits to facilities and in local conferences organized for SERCs and LEPCs. The EPA will, as part of the working group established under Executive Order 13650 on "Improving Chemical Facility Safety and Security," be convening with other agencies and other stakeholders to identify and share best practices to reduce safety and security risks.

13. What progress have you made with other agencies like OSHA, DHS, CSB, DOT in outreach efforts? Is there a tangible product resulting from these talks? Is there a timeline?

Response: A joint federal Working Group was established under the President's Executive Order 13650. The Executive Order calls for developing a plan to support efforts by co-regulators and responders, chemical facility owners and communities to work together to improve chemical safety and security. The plan will address ways to improve coordination, improve access to information, integrate programs and collaborate, and improve response procedures.

The federal Working Group is tasked to produce the plan within 135 days or December 14, 2013. A multi-agency pilot is underway in New York and New Jersey. This pilot effort included a meeting with firefighters to engage them on emergency preparedness and response issues that they felt needed to be addressed to safety respond to chemical incidents at facilities in their communities.

14. Will there be more information sharing? How will this be achieved?

Response: Part of the efforts under Executive Order 13650 on Improving Chemical Safety and Security tasks the federal Working Group to enhance information sharing and collaborative planning between chemical facility operators, emergency planners and first responders, improving public access to information about chemical facility risks, and enhancing the collection, storage and use of facility information by agencies and sharing data between agencies.

AL 13-000-1403

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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

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August 2, 2012

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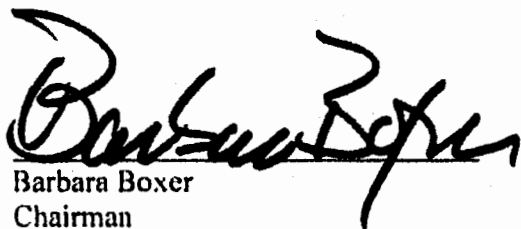
Dear Dr. Vandenberg:

Thank you for appearing before the Committee on Environment and Public Works on July 12, 2012, at the hearing entitled, "The Latest Science on Lead's Impacts on Children's Development and Public Health." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

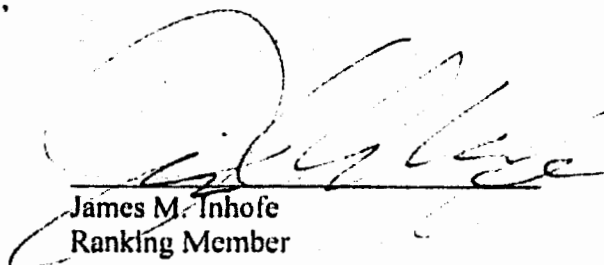
Enclosed are questions for you that have been submitted by Senators Boxer and Inhofe for the hearing record. Please submit your answers to these questions by COB August 16, 2012, to the attention of Mara Stark-Alcalá, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Mara Stark-Alcala@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Grant Cope of the Majority Staff at (202) 224-8832, or Dimitri Karakitsos of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,



Barbara Boxer
Chairman



James M. Inhofe
Ranking Member

Questions for Vandenberg

Questions from:

Senator Barbara Boxer

1. Your testimony states that EPA's 2008 decision to lower the Clean Air Act's standard for lead pollution was based on expanded evidence of health effects, including the impacts of lead on learning in children.

Could you please go into a little more detail about the types of harmful health impacts from lead that EPA considered?

2. Your testimony states that EPA's current review of whether to lower the Clean Air Act's standard for lead pollution relies on more than 2,900 scientific studies -- and that these studies demonstrate "human exposure to lead involves multiple pathways including hand to mouth contact or inhalation of lead dust, eating peeling paint chips, drinking water conveyed through lead pipes, and exposure to soil, which can act as a reservoir for deposited lead emissions."

In your opinion, what does this science say about the importance of preventing lead pollution in the first place?

3. In general, how would you describe the results of studies that examine the impacts of even low blood lead levels on children's cognitive development?
4. EPA's Children's Health Protection Committee recently wrote a letter about the science of lead's impacts on children's health that states "the harm that lead does to children, pregnant women and breast feeding mothers is even worse than we thought previously, with sufficient evidence now available to conclude that at levels of exposure less than 5 [micrograms of lead per deciliter], a relationship clearly exists linking lead with decreased academic achievement and specific cognitive measures, increased incidence of attention deficit hyperactivity disorder (ADHD) and problem behaviors."

Do you agree that the science showing that lead's health effects are far more serious than we previously thought?

5. EPA's Children's Health Protection Advisory Committee wrote a letter to the Agency stating: "EPA has not updated its dust lead standard, despite reports from its Science Advisory Board (SAB) and well-documented evidence that the existing standards promulgated more than a decade ago do not protect children adequately. A recently published study also shows that even in high risk houses treated 12 years ago in the [Department of Housing and Urban Development] lead hazard control grant program, dust lead levels of 10 µg/ft² on floors and 100 µg/ft² on window sills can be readily obtained and are feasible. These levels are far lower than the current EPA dust lead standards, which are 40 µg/ft² for floors and 250 µg/ft² for window sills."

On August 10, 2009, EPA received a petition from several public health organizations requesting, among other things, that EPA lower the Agency's dust-lead hazard standards.

What is the status of any EPA reconsideration of its dust lead standard? What is the time table for the Agency to propose a revision of the standard? Does the Agency have sufficient information

to move forward with such a proposal? If not, what specific data does the Agency lack and how would that information affect EPA's ability to propose a revision to the existing regulations?

Senator James Inhofe

- 1. Do you agree that the biggest contributors to the drop in blood lead levels is the removal of lead from gasoline and the removal of lead added to paint? How great was this drop?**
- 2. On May 6, 2010 EPA issued an Advanced notice of proposed rulemaking to extend the Lead Renovation Repair and Painting rule to commercial buildings. When will the study and report to congress regarding this proposal be finalized? Will EPA ensure that Congress has proper time to review this study before any additional proposals are made?**
- 3. What is EPA doing to encourage the development of Phase 2 test kits for the Lead Renovation Repair and Painting rule? When will EPA have a test kit available that meets the specifications set forth in the Lead Renovation Repair and Painting Rule?**
- 4. What Public education activities has EPA undertaken to inform the public about hiring lead safe renovators? Are there any additional activities that EPA plans to undertake in the next year or two?**
- 5. What guidance has EPA given regional offices to ensure that the Lead Renovation Repair and Painting Rule is being consistently enforced across the country?**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

MAR 07 2013

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510-6175

Dear Chairman Boxer:

Thank you for your letter of August 2, 2012 requesting responses to questions for the record following the July 12, 2012 hearing before the Committee on Environment and Public Works entitled, "The Latest Science on Lead's Impacts on Children's Development and Public Health".

The responses to your questions are provided as an enclosure to this letter. Again, thank you for your letter. If you have any further questions, please contact me or your staff may contact Laura Gomez in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-5736.

Sincerely,

A handwritten signature in black ink, appearing to read "Arvin", is positioned above the printed name of the sender.

Arvin Ganesan
Associate Administrator

cc: Sen. David Vitter
Ranking Member
Committee on Environment and Public Works

Enclosure

**UNITED STATES SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**

**“The Latest Science on Lead’s Impacts on Children’s Development and Public Health”
July 12, 2012**

Hearing Questions for the Record

The Honorable Barbara Boxer

QUESTION:

1. Your testimony states that EPA’s 2008 decision to lower the Clean Air Act’s standard pollution was based on the expanded evidence of health effects, including the impacts of lead on learning children. Could you please go into a little more details about the types of harmful health impacts from lead that EPA considered?

RESPONSE:

Lead has been demonstrated to exert a broad array of adverse effects on multiple organ systems, as the EPA has concluded in previous and ongoing assessments.^{1,2} This includes strong evidence of effects on the nervous system, cardiovascular system, effects on immune function, kidney function, reproduction and development, as well as heme (a component of red blood cells) synthesis and red blood cell function. Lead exposure may also cause cancer.

The most substantial evidence is available for effects on the nervous system in children and cardiovascular effects in adults. Prenatal exposure to lead and exposure during childhood have been associated with effects on cognitive function, as measured in IQ tests and other measures of learning and memory. In addition, lead exposure is linked to attention related behavioral problems in children. In adults with potentially longer exposure histories, lead exposure is associated with effects on the cardiovascular system, with the strongest body of evidence for effects on blood pressure (hypertension) and additional evidence indicating a broad array of effects on the cardiovascular system, including cardiovascular mortality.

QUESTION:

2. Your testimony states that EPA’s current review of whether to lower the Clean Air Act’s standard for lead pollution relies on more than 2,900 scientific studies, and that these studies demonstrate “human exposure to lead involves multiple pathways including hand to mouth contact or inhalation of lead-dust, eating peeling paint chips, drinking water conveyed through lead pipes, and exposure to soil, which can act as a reservoir for deposited lead emissions.”

¹ U.S. EPA (2006) Air quality criteria for lead: Volume I of II (EPA/600/R-05/144aF). Research Triangle Park, NC: U.S. Environmental Protection Agency.

² U.S. EPA (2012) Integrated Science Assessment for Lead (EPA/600/R-10/075B) Research Triangle Park, NC: U.S. Environmental Protection Agency

RESPONSE:

Preventing lead pollution is the best way to protect public health and the environment. We have long known that lead persists in the environment and accumulates in the human body. Many of the neurotoxic effects of exposures to lead during childhood appear to be irreversible and may even cause effects that appear later in life. Further, medical interventions, such as chelation, that reduce lead burden in the body present additional health risks and are not shown to reverse the effects of lead on children's ability to learn. There is no question that reducing exposure is the best approach. We have seen the impact of removing lead from gasoline in this regard. As a result of the EPA's regulatory efforts to remove lead from on-road motor vehicle gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline.

QUESTION:

3. In general, how would you describe the results of the studies that examine the impacts of even low blood lead levels on children's cognitive development?

RESPONSE:

Our understanding of what constitutes a "low" blood lead level has been evolving as the population mean blood lead (Pb) levels decline. Based on the 2009-2010 National Health and Nutrition Examination Survey (NHANES) data, the median blood Pb level for the U.S. population is 1.1 micrograms per deciliter ($\mu\text{g/dL}$), with a 95th percentile blood Pb level of 3.3 $\mu\text{g/dL}$. Among children aged 1-5 years, the median and 95th percentiles are slightly higher at 1.2 $\mu\text{g/dL}$ and 4.0 $\mu\text{g/dL}$, respectively.

The EPA's previous assessments³ concluded that the "overall weight of the available evidence provides clear substantiation of neurocognitive decrements being associated in young children with blood-Pb concentrations in the range of 5-10 $\mu\text{g/dL}$, and possibly somewhat lower". There is remarkable consistency in these findings across numerous studies involving varying study designs, different developmental assessment protocols, and diverse populations. The studies demonstrated impacts of lead on neurocognitive function, and these effects generally appeared to persist into adolescence and young adulthood. Both epidemiologic studies (in children) and 11 toxicological studies, demonstrated neurocognitive deficits in association with blood Pb levels at and below 10 micrograms per deciliter ($\mu\text{g/dL}$).

The EPA's second draft Integrated Science Assessment for Lead (2012)⁴ synthesizes results of recent studies with those reviewed in previous assessments and has concluded that there is a causal relationship between lead exposure and cognitive effects in children. The most well studied effect is IQ. Studies have also demonstrated associations with indices of cognitive function, such as reading and verbal skills, memory, learning, and visuospatial processing. Findings in human studies are supported by extensive

³ U.S. EPA (2006) Air quality criteria for lead: Volume I of II (EPA/600/R-05/144aF). Research Triangle Park, NC: U.S. Environmental Protection Agency. p. E9

⁴ U.S. EPA (2012) Integrated Science Assessment for Lead (Second External Review Draft) (EPA/600/R-10/075B) Research Triangle Park, NC: U.S. Environmental Protection Agency

evidence in animals that early-life lead exposures result in impaired learning and memory, including tests of spatial memory and rule learning and reversal.

QUESTION:

4. EPA's Children's Health Protection Committee recently wrote a letter about the science of lead's impacts on children's health that stated "the harm that lead does to children, pregnant women and breast feeding mothers is even worse than we thought previously, with sufficient evidence now available to conclude that at levels of exposure less than 5 [micrograms of lead per deciliter], a relationship clearly exists linking lead with decreased academic achievement and specific cognitive measures, increased incidence of attention deficit hyperactivity disorder (ADHD) and problem behaviors." Do you agree that the science showing that lead's health effects are far more serious than we previously thought?

RESPONSE:

It is important to note that, in assessments over past decades, the EPA has concluded that lead is associated with serious health effects in many organ systems. We generally agree with the statement above, but would clarify that new evidence indicates that known health effects may occur with lower lead concentrations than previously observed. Several studies included in the 2006 Air Quality Criteria Document for lead found effects on intellectual attainment at average blood lead levels as low as 2-8 ug/dL. More recent studies have expanded upon this evidence, providing further support for serious health effects in populations with average blood lead levels of less than 5 ug/dL. As stated in Dr. Vandenberg's testimony, the EPA's draft Integrated Science Assessment for lead finds that recent studies generally expand upon evidence for effects identified previously, with some studies showing effects with lower lead exposure levels.

QUESTION:

5. EPA's Children's Health Protection Advisory Committee wrote a letter to the Agency stating: "EPA has not updates its dust lead standard, despite reports from its Science Advisory Board (SAB) and well-documented evidence that the existing standards promulgated more than a decade ago do not protect children adequately. A recently published study also shows that even in high risk houses treated 12 years ago in the [Department of Housing and Urban Development] lead hazard control grant program, dust lead levels of 10ug/ft2 on floors and 100ug/ft2 on window sills can be readily obtained and are feasible. These levels are far lower than the current EPA dust lead standards, which are 40ug/ft2 for floors and 250ug/ft2 for window sills".

On August 10, 2009, EPA received a petition from several public health organizations requesting, among other things, that EPA lower the Agency's dust-lead hazard standards.

What is the status of any EPA reconsideration of its dust lead standard? What is the time table for the Agency to propose a revision of the standard? Does the Agency have sufficient information to move forward with such a proposal? If not, what specific data does the Agency lack and how would that information affect EPA's ability to propose a revision to the existing regulations?

RESPONSE:

In October 2009, the EPA responded to the petition, agreeing to revisit the current lead-dust hazard standards, but did not commit to a specific rulemaking outcome – including the specific level of the lead-dust hazard standard. The EPA has initiated a number of activities to determine if the current residential lead-dust hazard standards should be modified. These activities include:

- The EPA conducted a review of information found in the open literature and government reports on sampling and chemical analysis technologies for lead in dust and residual lead-dust levels after various lead-based paint activities and cleaning.
- The EPA developed analytical approaches to evaluate the lead-dust hazard standards and had them reviewed by the agency's Science Advisory Board in November 2010. Since receiving the SAB's input in July 2011, the EPA has been actively working to revise the approaches based on SAB recommendations and implementing the approaches to evaluate lead-dust hazard standards. (SAB report: <http://yosemite.epa.gov/sab/sabproduct.nsf/0/9c733206a5d6425785257695004f0cb1!OpenDocument&TableRow=2.3#2>.)
- In collaboration with the Department of Housing and Urban Development (HUD), the EPA has developed an Information Collection Request (ICR) to collect information from HUD Lead Hazard Control Grantees "as to their ability to achieve clearance at the current level for floors and windowsills, and whether it would be technically feasible to achieve clearance at potentially lower levels". (77 FRN 63321: <http://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=2012-25406&packageId=FR-2012-10-16&acCode=FR>). The information collection activity and compilation of results are expected to occur in 2013.

These have been important contributions. When completed, the EPA will evaluate all the available information to determine whether the lead-dust hazard standards should be modified.

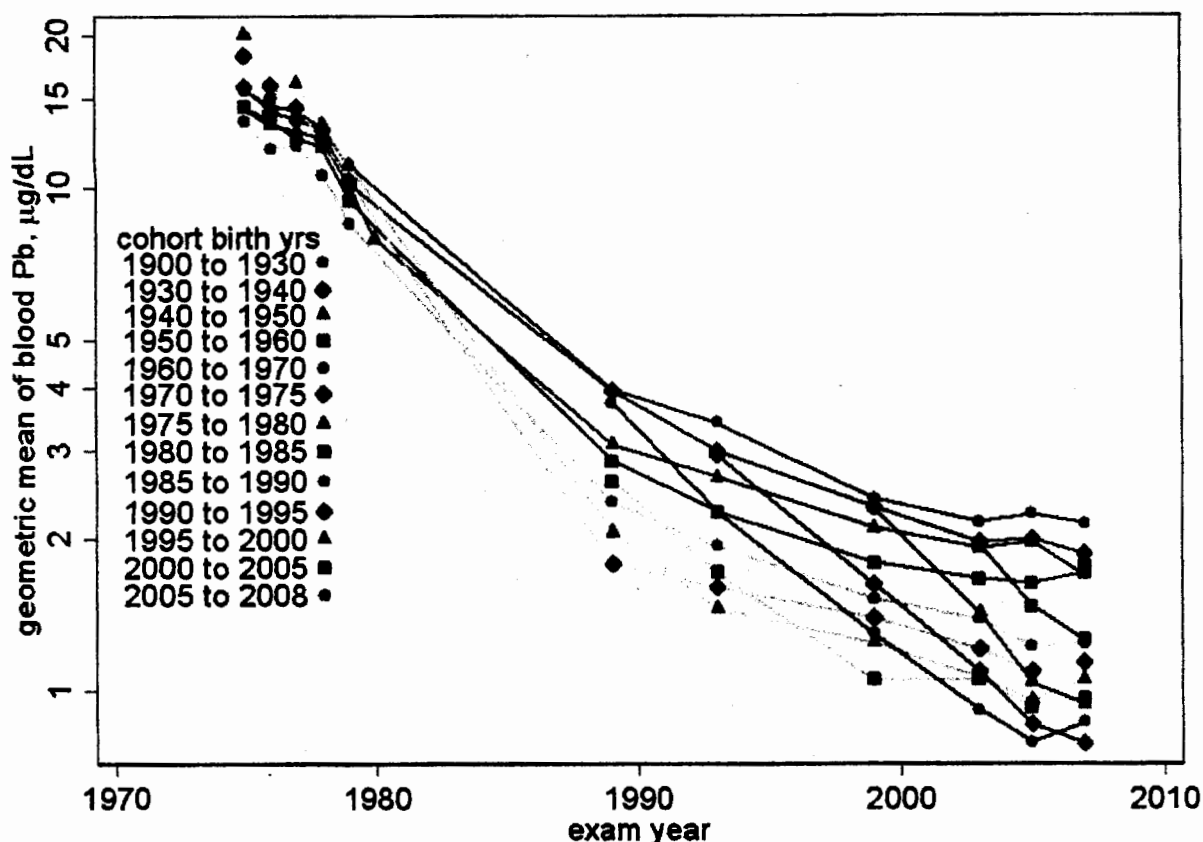
The Honorable James Inhofe

QUESTION:

1. Do you agree that the biggest contributors to the drop in blood lead levels is the removal of lead from gasoline and the removal of lead added to paint? How great was this drop?

RESPONSE:

Data from the National Health and Nutrition Examination Survey show dramatic decreases in blood lead concentrations since the late 1970s, as shown in the figure below (from the second draft Integrated Science Assessment for Lead). We agree that a major contributor to this decline is the reduction of lead in gasoline and paint. There have been important contributions to lead exposure reduction from other actions, such as drinking water regulations, cleanup of lead-contaminated sites, and the elimination of lead solder in U.S. canned food. Having said this, it is important to note that paint that contains lead is still present in many housing units, and is a potential source of exposure even decades after the phase out of paint containing lead.



Source: Adapted from data from the NHANES (NCHS, 2010)

Note: The means of logged blood Pb were weighted to represent national averages. Data were from the publically NHANES II, NHANES III for 1988-1991 and 1992-1994, and the continuous NHANES in 1999-2000, 2003-2004, 2005-2006, 2007-2008. Continuous NHANES data from 2001-2002 and 2009-2010 are not included because there were only 551 blood Pb samples in each of those data sets. The year plotted for exam year was the reported exam year for NHANES II, the middle year of each of the phases of NHANES III, and the second year of each of the continuous NHANES.

Figure 4-17 Blood Pb cohort means versus year of exam. [second draft Integrated Science Assessment for Lead; <http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=235331>]

QUESTION:

- On May 6, 2010 EPA issues an advanced notice of proposed rulemaking to extend the Lead Renovation Repair and Painting rule to commercial buildings. When will the study and report to congress regarding this proposal be finalized? Will EPA ensure that Congress had proper time to review this study before any additional proposals are made?

RESPONSE:

The Lead-based Paint Hazard Reduction Act of 1992, which does not include a reporting requirement, directed the EPA to promulgate regulations addressing renovations that disturb lead-based paint in "public buildings constructed before 1978, and commercial buildings." In response to this statutory directive and a settlement agreement the EPA entered into in 2009, on May 6, 2010, the EPA announced the commencement of proceedings to propose lead-safe work practices and other requirements for renovations on public and commercial buildings.

The EPA has not yet completed further regulatory action on this subject, but has completed extensive studies on renovation activities conducted on a variety of buildings, both residential and public and commercial (<http://www.epa.gov/lead/pubs/leadtpbf.htm#Renovation>), including:

- Lead Exposure Associated with Renovation and Remodeling Activities, Final Summary Report, January 2000 (EPA 747-S-00-001) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Executive Summary - Lead Exposure Associated with Renovation and Remodeling Activities: Phase IV, Worker Characterization and Blood-Lead Study of R&R Workers Who Specialize in Renovation of Old or Historic Homes, March 1999 (EPA 747-R-99-001) [residential buildings]
- Executive Summary - Lead Exposure Associated with Renovation and Remodeling Activities: Phase III, Wisconsin Childhood Blood-Lead Study, March 1999 (EPA 747-R-99-002) [residential buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Summary Report, May 1997 (EPA 747-R-96-005) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase II, Worker Characterization and Blood-Lead Study, May 1997 (EPA 747-R-96-006) [residential and commercial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase I, Environmental Field Sampling Study, Volume I: Technical Report, May 1997 (EPA 747-R-96-007) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase I, Environmental Field Sampling Study, Volume II: Appendices, May 1997 (EPA 747-R-96-008) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Draft final report on characterization of dust lead levels after renovation, repair, and painting activities. <http://www.epa.gov/lead/pubs/duststudy01-23-07.pdf> [primarily residential, but includes data from a school building]

These studies provide a comprehensive picture of lead-dust generation by renovation activities and lead exposure associated with renovation and remodeling activities. The EPA will use these studies, along with any other suitable studies and information identified as the result of a search of the scientific literature (e.g., NIOSH Health Hazard Evaluation Report #99-0113-2853; Department of Health and Human Services, July 2001), to identify lead paint hazards generated by renovation activities on public and commercial buildings. In addition, the EPA anticipates holding a public meeting regarding this rule in 2013.

QUESTION:

3. What is EPA doing to encourage the development of Phase 2 test kits for the Lead Renovation Repair and Painting rule? When will EPA have a test kit available that meets the specifications set forth in the Lead Renovation Repair and Painting Rule?

RESPONSE:

At this time the EPA has not been contacted by any manufacturers seeking recognition of new test kits that may meet both the false negative and false positive test kit performance criteria, and the agency has no plans to sponsor additional testing of kits as was done previously through the agency's Environmental Technology Verification program.

As a reminder, the 2008 Lead-based Paint Renovation Repair and Painting Rule (RRP rule) does not require a certified renovator to use lead test kits. In addition to using a recognized lead test kit they have other options to determine if they need to use the lead-safe work practices. They can also choose to:

- assume that lead is present and therefore use lead-safe work practices;
- collect a paint chip sample and send it to an EPA accredited lead laboratory for analysis of the lead; or
- hire a lead inspector or risk assessor to determine the level of lead in paint through either paint chip sampling and lab analysis or using an X-Ray Fluorescence (XRF) analyzer in the field.

QUESTION:

4. What Public education activities has EPA undertaken to inform the public about hiring lead safe renovators? Are there any additional activities that EPA plans to undertake in the next year or two?

RESPONSE:

The EPA's second phase of outreach will include renewed efforts to educate consumers about the importance of using lead-safe certified renovators for remodeling/repair projects to protect themselves and their families. This phase will also include a focus on the regulated community (renovators, painters, etc) and key influencers (state licensing agencies, major users, etc.).

The EPA plans to capitalize on the outreach conducted during the initial outreach phase by further distributing informational materials through direct (mailing fliers, attending trade shows) and indirect (providing targeted online content and print media) activities. The EPA also plans to discuss and coordinate outreach efforts with new and existing partners in the federal, state, local, and private organizations that focus on children's health protection issues.

In FY13, the EPA will continue certifying firms, accrediting training providers, and encouraging states to become authorized programs. The EPA also plans additional Public Service Announcement (PSA) radio spots, a lead-safe segment on the nationally syndicated home improvement program, Hometime, and a mass postcard mailing to over 500,000 uncertified firms.

QUESTION:

5. What guidance has EPA given regional offices to ensure that the Lead Renovation Repair and Painting Rule is being consistently enforced across the country?

RESPONSE:

To ensure consistent enforcement across the country, EPA Headquarters provided the Regional offices with numerous guidance documents relating to enforcement of the Lead-based Paint Renovation Repair and Painting (RRP) Rule and the resolution of enforcement actions. These include:

- Two memos issued by Cynthia Giles, the Assistant Administrator for the Office of Enforcement and Compliance Assurance, in 2010 providing implementation guidance to the EPA Regions for the Lead-based Paint RRP Rule. Specifically, these memos explained the agency's decision to not pursue enforcement of certain, date-specific, firm certification and training requirement violations. Please refer to the linked memos for more detailed description.

<http://www.epa.gov/lead/pubs/owens20100420.pdf>

http://www.epa.gov/lead/pubs/giles_RRP_memo.pdf

- National Program Managers (NPM) Guidance which identifies national areas of focus, program-specific guidance and operational measures in accordance with the EPA's Strategic Plan and Annual Plan and Budget. The annual NPM Guidance serves as a national framework for EPA Regions to use as they establish individual work plans and work-sharing strategies with the states, tribes, and other implementation partners.
<http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100F6FG.PDF>
- Lead-based Paint Consolidated Enforcement Response and Penalty Policy (LBP Consolidated ERPP), which sets forth guidance for case teams to use in determining an appropriate enforcement response and penalty amount. This policy ensures consistent, fair and equitable treatment of the regulated community, predictable enforcement responses, and comparable penalty assessments for comparable violations, with flexibility to allow for consideration of the individual facts and circumstances of a particular case.
<http://www.epa.gov/enforcement/documents/policies/leadbasedpaint-consolidatederpp0810.pdf>

In addition to these guidance documents, EPA Headquarters works closely with Regional case teams on case development issues and hosts monthly conference calls with the Regional offices to discuss Lead RRP compliance monitoring and enforcement issues. The agency has also developed a Question and Answer document to provide guidance to the regulated community on frequently asked questions regarding implementation of the RRP Rule. This document, available on the EPA's website, also helps ensure that Regions are applying the RRP Rule consistently across the country. See <http://www.epa.gov/lead/pubs/rrp-faq.pdf>

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BARBARA BOXER, CALIFORNIA, CHAIRMAN

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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

BEATRICE PURRER, MAJORITY STAFF DIRECTOR
JACK BAIG, REPUBLICAN STAFF DIRECTOR

December 20, 2013

Sarah W. Dunham
Director, Office of Atmospheric Programs
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

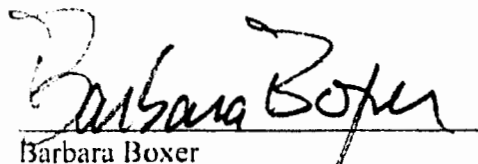
Dear Director Dunham:

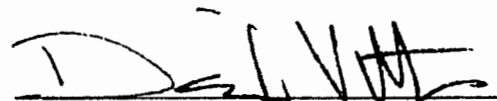
Thank you for appearing before the Committee on Environment and Public Works on November 5, 2013, at the hearing entitled, "Fugitive Methane Emissions from Oil and Gas Operations." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

Enclosed are questions for you that have been submitted by Senator Vitter for the hearing record. Please submit your answers to these questions by COB January 3, 2014, to the attention of Mara Stark-Alcala, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Mara_Stark-Alcala@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Joe Mendelson of the Majority Staff at (202) 224-8832, or Dimitri Karakitsos of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,


Barbara Boxer
Chairman


David Vitter
Ranking Member

**Environment and Public Works Committee Hearing
November 5, 2013
Follow-Up Questions for Written Submission**

Questions for Dunham

Questions from:

Senator David Vitter

1. The recent EPA regulations on the oil and gas sector were a result of a lawsuit filed by environmentalists alleging that EPA missed statutory deadlines for reviewing and updating the previous NSPS and NESHAP standards for the oil and gas sector, is that correct?
 - a. Because this lawsuit was centered around updating existing emissions standards, EPA did not affirmatively find it appropriate to revise the oil and gas NSPS to directly regulate methane emissions?
2. Does the Agency have any guidance or cut off as to what point a "co-benefit" actually no longer a "co-benefit?" For example, the NSPS rule for oil and gas finalized by EPA is largely justified by the reduction of methane, a "co-benefit." These methane reductions are over 90 times greater than the reductions of hazardous air pollutants the rule primarily seeks to regulate. At what point in a rule like this does the "co-benefit" actually become the subject of the regulation? If a "co-benefit" results in 10 times the emissions reductions than what a rule is meant to address, is it still a "co-benefit"? What about 50 times?
 - a. Methane reduction is clearly a large "co-benefit" of the newly updated air rules for the oil and gas industry. Should EPA move to further regulate air emissions from the oil and gas industry – particularly methane specific regulations – would the Agency count reductions in methane emissions from the current rules as benefits for future new rules?
 - b. Can EPA commit to that any future air rules related to the oil and gas industry, for example one specifically regulating methane, will not double count the benefits already used by the Agency in other rules to justify costs or inflate benefits that are already in place?
3. EPA received a notice of intent to sue from seven northeastern – largely non-oil and gas producing – States Attorney Generals to force the agency to create additional regulations on the oil and gas industry in order to directly regulate methane. What are EPA's plans in regards to additional rulemakings on methane or other potential air emissions related to the oil and gas industry? Are there any efforts underway now?
 - a. Given the fact that EPA's air rules on the oil and gas industry which the Agency contends will have significant methane emissions reductions have not been fully implemented yet, can the Agency commit to not moving forward with new regulations until a recent NSPS and NESHAP are fully implemented and EPA has a better idea of the state of emissions at that time?
 - b. The UT-EDF study used real world data to clearly show that EPA's methane emissions estimates from hydraulically fractured wells were grossly overinflated. Will EPA take this empirical data into consideration prior to crafting any potential new emissions regulations with regard to hydraulically fractured wells?

- c. Can you commit that if EPA moves further regulate air emissions from the oil and gas industry the Agency will not rely on their outdated data but rather use actual emissions that among other things have shown significantly less real emissions from hydraulic fracturing?
 - 4. What is the status of the Comprehensive Interagency Methane Strategy announced by the President in June? Who is involved, and can you tell me when the strategy will be released?
 - a. Is there any public or stakeholder involvement in this strategy? If so please describe.
 - b. What is EPA's role?
 - 5. In the President's Climate Action Plan when addressing the issue of reducing methane emissions the plan states "when it comes to the oil and gas sector, investments to build and upgrade gas pipelines will not only put more Americans to work, but also reduce emission and enhance economic productivity." Does EPA have a roll in the permitting of natural gas infrastructure? Does EPA share the President's goal of expeditiously building more natural gas pipelines and infrastructure?
-



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 30 2014

OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
U.S. Senate
Washington, D.C. 20510

Dear Chairman Boxer:

Thank you for your letter of December 20, 2013, to Sarah Dunham requesting responses to Questions for the Record following the November 5, 2013, hearing before the Committee on Environment and Public Works entitled, "Fugitive Methane Emissions from Oil and Gas Operations."

The responses to the questions are provided as an enclosure to this letter. If you have any further questions please contact me, or your staff may contact Patricia Haman at haman.patricia@epa.gov or (202) 564 2806.

Sincerely,

A handwritten signature in black ink, which appears to read "Nichole Distefano", is positioned above the typed name.

Nichole Distefano
Deputy Associate Administrator
for Congressional Affairs

Enclosure

Environment and Public Works Committee Hearing

November 5, 2013

Follow-Up Questions for Written Submission

Questions for Dunham

Questions from: Senator David Vitter

1. The recent EPA regulations on the oil and gas sector were a result of a lawsuit filed by environmentalists alleging that EPA missed statutory deadlines for reviewing and updating the previous NSPS and NESHAP standards for the oil and gas sector, is that correct?

The Clean Air Act requires the EPA to set new source performance standards (NSPS) for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare and set standards for the emissions of air toxics, also called hazardous air pollutants that are known or suspected of causing cancer and other serious health effects (NESHAP). The agency is then required to review the NSPS and conduct a technology review of the NESHAP every eight years, and also conduct a residual risk review one time, within eight years after the NESHAP is issued. The previous NSPS, for volatile organic compounds and sulfur dioxide, were issued in 1985 and the NESHAP for both oil and natural gas production and natural gas transmission and storage were issued in 1999. In 2009, since the agency had not taken the required actions, Wild Earth Guardians and San Juan Citizens Alliance sued EPA to review the NSPS and to conduct the residual risk and technology reviews of the NESHAP as required by the Clean Air Act.

The EPA agreed to a schedule for review and notice and comment rulemaking to fulfill that statutory requirement, which we met with final rules published in the Federal Register on August 16, 2012 (77 FR 49489). The "Oil and Natural Gas Sector: New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Reviews" had several components. First, it revised the NSPS for volatile organic compounds at onshore natural gas processing plants and revised the NSPS for sulfur dioxide emissions from natural gas processing plants. Second, it established NSPS for certain oil and gas operations not covered by the existing standards. Third, it finalized the residual risk and technology review for the Oil and Natural Gas Production source category and the Natural Gas Transmission and Storage source category.

- a. Because this lawsuit was centered around updating existing emissions standards, EPA did not affirmatively find it appropriate to revise the oil and gas NSPS to directly regulate methane emissions?

In the final rule, EPA chose to continue to evaluate the appropriateness of regulating methane with an eye toward taking additional steps if appropriate. The agency noted that the collection of further data through the Greenhouse Gas Reporting Program (GHGRP) and other data sources would help EPA evaluate whether it is appropriate to directly regulate methane from oil and gas sources covered by the 2012 rulemaking.¹

2. Does the Agency have any guidance or cut off as to what point a "co-benefit" is actually no longer a "co-benefit?" For example, the NSPS rule for oil and gas finalized by EPA is largely justified by the reduction of methane, a "co-benefit." These methane reductions are over 90 times greater than the reductions of hazardous air pollutants the rule primarily seeks to regulate. At what point in a rule like this does the "co-benefit" actually become the subject of the regulation? If a "co-benefit" results in 10 times the emissions reductions than what a rule is meant to address, is it still a "co-benefit"? What about 50 times?

Pollution controls often reduce multiple pollutants, leading to significant co-benefits from the application of those controls. For example, in the oil and gas sector, the use of reduced emissions completions of hydraulically fractured natural gas wells reduce VOC emissions and also provide significant methane co-benefits at no additional cost. However, these methane co-benefits were not considered when EPA determined the cost-effective level of control in setting standards in the 2012 rulemaking which reflect the best system of emission reduction for VOC. The reductions of pollutants beyond those directly targeted by the regulation are considered co-benefits regardless of their magnitude. Best practices for economic analysis and guidance from the Office of Management and Budget require that the EPA consider all benefits of a regulation, including ancillary benefits.

a. Methane reduction is clearly a large "co-benefit" of the newly updated air rules for the oil and gas industry. Should EPA move to further regulate air emissions from the oil and gas industry – particularly methane specific regulations – would the Agency count reductions in methane emissions from the current rules as benefits for future new rules?

No. When the EPA calculates benefits for a new regulation, those benefits are above and beyond reductions the agency previously estimated for other pollution control regulations that are already "on the books."

b. Can EPA commit to that any future air rules related to the oil and gas industry, for example one specifically regulating methane, will not double count the benefits already used by the Agency in other rules to justify costs or inflate

¹ "Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews; Final Rule," 77 *Federal Register* 159 (August 12, 2012), pp 49513.

benefits that are already in place?

Yes. When the EPA calculates benefits for a new regulation, those benefits are above and beyond reductions the agency previously estimated for other pollution control regulations that are already "on the books."

- 3. EPA received a notice of intent to sue from seven northeastern – largely non-oil and gas producing-States Attorney Generals to force the agency to create additional regulations on the oil and gas industry in order to directly regulate methane. What are EPA's plans in regards to additional rulemakings on methane or other potential air emissions related to the oil and gas industry? Are there any efforts underway now?**

EPA received the "Clean Air Act Notice of Intent to Sue for Failure to Determine Whether Standards of Performance Are Appropriate for Methane Emissions from Oil and Gas Operations, and to Establish Such Standards and Related Guidelines for New and Existing Sources." The notice of intent to sue was submitted by the states of New York, Connecticut, Delaware, Maryland, Massachusetts, Rhode Island and Vermont on December 11, 2012. At this time no decisions have been made regarding EPA's response to this notice of intent to sue.

Additionally, after promulgating final actions in 2012, EPA received 11 petitions for reconsideration on both the NSPS and the NESHAP. The petitions were submitted by industry, states and NGOs. The agency has agreed to respond to those petitions, and is currently evaluating the issues that were raised. One petitioner asked EPA to reevaluate the decision not to regulate methane under the NSPS. No decisions regarding regulation of methane have been made. The EPA plans to propose reconsiderations of both the NSPS and NESHAP as soon as possible.

- a. Given the fact that EPA's air rules on the oil and gas industry which the Agency contends will have significant methane emissions reductions have not been fully implemented yet, can the Agency commit to not moving forward with new regulations until a recent NSPS and NESHAP are fully implemented and EPA has a better idea of the state of emissions at that time?**

On September 23, 2013, EPA published final time-critical updates to the NSPS for storage tanks in the oil and natural gas sector. The changes reflect recent information showing that more higher-volume storage tanks will be coming on line than the agency originally estimated. Additionally, the agency is in the process of addressing several additional issues raised in the 2012 petitions for reconsideration of both the NSPS and the NESHAP that the Agency believes warrant reconsideration. EPA intends to issue proposals to address these issues as soon as possible. The agency

continues to work through the complex issues that were raised but has not determined which issues for which reconsideration should be granted. As a result, the agency cannot commit to a specific timeline; therefore, it is uncertain whether these reconsiderations will be issued before or after the full implementation of the 2012 NSPS and NESHAP.

- b. **The UT-EDF study used real world data to clearly show that EPA's methane emissions estimates from hydraulically fractured wells were grossly overinflated. Will EPA take this empirical data into consideration prior to crafting any potential new emissions regulations with regard to hydraulically fractured wells?**

EPA is currently evaluating the UT Austin-EDF study on methane emissions from the gas industry, and is seeking stakeholder input on use of the study data. Overall, this study found that total methane emissions from natural gas production, from all sources measured in the study, were comparable to the most recent EPA estimates.²

Research studies like the UT Austin-EDF study will add to EPA's knowledge base of this sector's GHG emissions. EPA is encouraged that more methane emissions measurement data for the gas industry are now available to the public and to EPA as we consider and/or craft any future regulations.

- c. **Can you commit that if EPA moves further to regulate air emissions from the oil and gas industry the Agency will not rely on their outdated data but rather use actual emissions that among other things have shown significantly less real emissions from hydraulic fracturing?**

The natural gas sector has experienced significant growth and changes in industry practices in recent years, and the EPA will continue to evaluate emissions estimates for this sector. There are a variety of existing and planned oil and natural gas emissions studies and data collection efforts underway. As always, the EPA is committed to reviewing all new data (such as data from the Greenhouse Gas Reporting Program and the UT Austin-EDF study) to ensure its emissions estimates reflect the most robust data and information available.

In support of the Administration's Strategy to Reduce Methane Emissions, on April 15, 2014, EPA released a series of five white papers on potentially significant sources of volatile organic compound (VOCs) and methane in the oil and gas sector for input from a panel of independent experts. The white papers focus on technical issues

² See page 1 of (Allen et al. 2013). Measurements of methane emissions at natural gas production sites in the United States. PNAS. vol. 110 no. 44.

covering emissions and mitigation techniques. EPA will use the papers, along with input from the experts and technical input and data from the public to determine how to best pursue further reductions from these sources. The papers do not draw policy conclusions.

4. What is the status of the Comprehensive Interagency Methane Strategy announced by the President in June? Who is involved, and can you tell me when the strategy will be released?

The EPA and the Departments of Agriculture, Energy, Interior, and Transportation worked together to develop a comprehensive Strategy to Reduce Methane Emissions, which was released by the Administration on March 28, 2014.

- a. Is there any public or stakeholder involvement in this strategy? If so please describe.

The Secretary of Energy is convening a series of Roundtable discussions that began in March, on issues related to methane emissions, with leaders from industry, state governments, academia, non-governmental organizations, and labor. In addition, in the spring of 2014, EPA will begin to engage industry, states, and other key stakeholders on ways to enhance the Natural Gas STAR program, and will formally launch the new partnership by the end of 2014.

- b. What is EPA's role?

The President's Climate Action Plan commits the Administration to making additional progress in reducing methane emissions by developing an interagency, multi-sector methane strategy for "assessing current emissions data, addressing data gaps, identifying technologies and best practices for reducing emissions, and identifying existing authorities and incentive-based opportunities to reduce methane emissions."

A number of agencies including the Environmental Protection Agency, the Department of Energy, the Department of Agriculture, the Department of Interior, the Department of Transportation, and the Department of Commerce worked together to develop a comprehensive methane strategy. The EPA has been a key participant and contributor, providing input based on our experience working with the US National Greenhouse Gas Emissions Inventory, the Greenhouse Gas Reporting Program, and our voluntary and regulatory programs.

In implementing this interagency methane strategy, the Obama Administration will work collaboratively with state governments, as well as the private sector, to reduce emissions across multiple sectors, improve air quality, and achieve public health and

economic benefits.

5. In the President's Climate Action Plan when addressing the issue of reducing methane emissions the plan states "when it comes to the oil and gas sector, investments to build and upgrade gas pipelines will not only put more Americans to work, but also reduce emission and enhance economic productivity." Does EPA have a role in the permitting of natural gas infrastructure? Does EPA share the President's goal of expeditiously building more natural gas pipelines and infrastructure?

The Administration continues to believe that our abundant domestic natural gas resources have an important role to play in the transition to a clean energy economy. The EPA does not directly permit natural gas infrastructure development, but does play a role in permitting air emissions from a limited number of sources that make up the natural gas infrastructure. For example, new or modified major sources of air emissions, such as the large compressors used in natural gas transmission pipelines, could be required to obtain a pre-construction permit prior to construction. The level of emissions at which such a permit is required varies depending on the air quality of the area in which the source will locate. This federal permit program, known as new source review (NSR), is typically implemented by state or local permitting authorities under the rules approved into their State Implementation Plans (SIPs). In some jurisdictions, such as Indian Country, EPA is the permitting authority. After construction, these major sources may be required to obtain an operating permit under title V of the Clean Air Act. Like the NSR program, the title V permit would typically be issued by the state, local or tribal agency responsible for the area in which the source is located. The Agency is committed to improving our understanding of methane emissions and working with industry to identify cost-effective reduction opportunities in order to ensure that new oil and gas development is done in a commonsense way that protects the environment, communities, and the public.

BARBARA BOXER, CALIFORNIA, DEMOCRAT

CHRISTINE WILSON, CALIFORNIA, DEMOCRAT
 BERT ANDERSON, CONNECTICUT, DEMOCRAT
 RICHARD BLUMENTHAL, CONNECTICUT, DEMOCRAT
 ROBERT C. BYRD, WEST VIRGINIA, DEMOCRAT
 JEFF BLUMENTHAL, CONNECTICUT, DEMOCRAT
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DAVID VITTER, LOUISIANA, REPUBLICAN
 JAMES M. INHOFE, OKLAHOMA, REPUBLICAN
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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

U.S. SENATOR, CALIFORNIA, DEMOCRAT
 U.S. SENATOR, CALIFORNIA, DEMOCRAT

September 24, 2014

Nick DiPasquale
 Director, Chesapeake Bay Program
 EPA
 410 Severn Ave., Suite 112
 Annapolis, Maryland 21403


Dear Mr. DiPasquale:

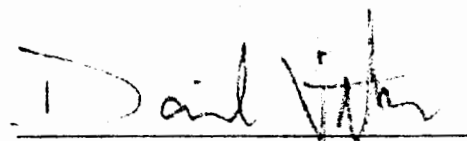
Thank you for appearing before the Committee on Environment and Public Works on September 8, 2014, at the hearing entitled, "Examining the Strategy for Achieving the Goals of the New Voluntary Chesapeake Bay Watershed Agreement." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

Enclosed are questions for you that have been submitted by Senator Vitter for the hearing record. Please submit your answers to these questions by COB October 8, 2014, to the attention of Drew Kramer, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Drew_Kramer@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Ted Illston of the Majority Staff at (202) 224-8832, or Brandon Middleton of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,


 Barbara Boxer
 Chairman


 David Vitter
 Ranking Member

**Environment and Public Works Committee Hearing
September 8, 2014
Follow-Up Questions for Written Submission**

Questions for DiPasquale

Questions from:

Senator David Vitter

1. The U.S. Environmental Protection Agency (EPA) has previously promised members of Congress and the American public that it would develop a cost-benefit analysis for the Chesapeake Bay Total Maximum Daily Load (TMDL). To date, however, no such analysis has been provided by EPA. What explains EPA's failure to provide a cost-benefit analysis for the Chesapeake Bay TMDL? Doesn't this failure affect EPA's credibility amongst those counties and stakeholders who are required to alter their land management practices in order to comply with the TMDL?
2. In 2009, the Chesapeake Bay Foundation and other plaintiffs sued EPA, claiming that progress under the Chesapeake 2000 Agreement was too slow, and that the voluntary goals in the Agreement were in fact mandatory duties under the Clean Water Act. In other words, rather than a mutual commitment to work together on Chesapeake Bay restoration issues, the lawsuit painted the Chesapeake 2000 Agreement as containing inflexible standards which bound the Chesapeake states to a nonnegotiable mandate.

Instead of defending the voluntary nature of the Chesapeake 2000 Agreement, EPA entered into a settlement agreement with the plaintiffs which obligated the agency to develop the Bay TMDL. As Peyton Robertson with NOAA previously indicated, the Bay TMDL "fundamentally altered the nature" of the Chesapeake Bay Program because "[y]ou can't reasonably argue that it is a voluntary approach anymore."

Given this history, and the purported voluntary nature of the 2014 Chesapeake Bay Watershed Agreement, several questions arise:

- a. By entering into the 2014 Chesapeake Bay Watershed Agreement, have the states inadvertently laid the groundwork for a future lawsuit against EPA over the alleged failure to accomplish the Agreement's goals in a timely manner?
 - b. If litigation occurs which claims that the 2014 Chesapeake Bay Watershed Agreement creates mandatory duties for EPA and the states, will EPA defend the voluntary nature of the Agreement?
 - c. Do you agree that there is a lag time between implementing conservation measures and observing local water quality improvements, and that the environmental improvements we are seeing in the Chesapeake Bay today are the result of voluntary efforts initiated several years ago?
3. Environmental literacy is a major component of the 2014 Chesapeake Bay Watershed Agreement. According to the Agreement:

Each participating Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies,

practices and voluntary metrics that support the environmental literacy Goals and Outcomes of this Agreement.

Does EPA expect that environmental literacy curricula will also include a discussion of how private property rights serve as a backbone to the Chesapeake region's economy?

14-001-5555



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 30 2014

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510-6175

Dear Chairman Boxer:

Thank you for the opportunity to respond to the questions for the record following the September 8, 2014, hearing entitled, "Examining the Strategy for Achieving the Goal of the New Voluntary Chesapeake Bay Watershed Agreement." The attached document responds to the questions. I hope that this information is useful to you and the members of the committee.

If you have any further questions, please contact me or your staff may call Sven-Erik Kaiser in my office at (202) 566-2753 or kaiser.sven-erik@epa.gov.

Sincerely,

A handwritten signature in black ink, which appears to read "Laura Vaught", is written over the typed name.

Laura Vaught
Associate Administrator

Attachment

SEPW Water and Wildlife Subcommittee Hearing
September 8, 2014
Questions for the Record and Draft Responses

Vitter 1: The U.S. Environmental Protection Agency (EPA) has previously promised members of Congress and the American public that it would develop a cost-benefit analysis for the Chesapeake Bay Total Maximum Daily Load (TMDL). To date, however, no such analysis has been provided by EPA. What explains EPA's failure to provide a cost-benefit analysis for the Chesapeake Bay TMDL? Doesn't this failure affect EPA's credibility amongst those counties and stakeholders who are required to alter their land management practices in order to comply with the TMDL?

Response: The EPA is in the process of completing an effort to estimate both the benefits and costs of the Bay jurisdictions' work to attain water quality standards through implementation of the Chesapeake Bay Total Maximum Daily Load (TMDL).

Vitter 2: In 2009, the Chesapeake Bay Foundation and other plaintiffs sued EPA, claiming that progress under the Chesapeake 2000 Agreement was too slow, and that the voluntary goals in the Agreement were in fact mandatory duties under the Clean Water Act. In other words, rather than a mutual commitment to work together on Chesapeake Bay restoration issues, the lawsuit painted the Chesapeake 2000 Agreement as containing inflexible standards which bound the Chesapeake states to a nonnegotiable mandate.

Instead of defending the voluntary nature of the Chesapeake 2000 Agreement, EPA entered into a settlement agreement with the plaintiffs which obligated the agency to develop the Bay TMDL. As Peyton Robertson with NOAA previously indicated, the Bay TMDL "fundamentally altered the nature" of the Chesapeake Bay Program because "[y]ou can't reasonably argue that it is a voluntary approach anymore."

Given this history, and the purported voluntary nature of the 2014 Chesapeake Bay Watershed Agreement, several questions arise:

Vitter 2a. By entering into the 2014 Chesapeake Bay Watershed Agreement, have the states inadvertently laid the groundwork for a future lawsuit against EPA over the alleged failure to accomplish the Agreement's goals in a timely manner?

Response. The EPA does not believe that that 2014 Chesapeake Bay Watershed Agreement (Agreement) provides a basis for a lawsuit against the United States over the alleged failure to accomplish the Agreement's goals in a timely manner. The Agreement is a voluntary undertaking by the Bay partners to achieve an environmentally and economically sustainable Chesapeake Bay Watershed. It does not establish any enforceable legal obligations on the part of its signatories.

This is evident in the terms of the Agreement itself at page 16 (the Affirmation page upon which each agency signed the agreement): "this Agreement is voluntary and subject to the availability of appropriated funds. This Agreement is not a contract or an assistance agreement. We [the signatories including EPA] also understand that this Agreement does not pre-empt, supersede or override any other law or regulation applicable to each signatory."

One of the requirements to bring a lawsuit against the United States is the waiver of sovereign immunity by the United States. This voluntary Agreement does not provide any such waiver.

Vitter 2b. If litigation occurs which claims that the 2014 Chesapeake Bay Watershed Agreement creates mandatory duties for EPA and the states, will EPA defend the voluntary nature of the Agreement?

Response: As noted above, the EPA does not believe the Agreement provides any basis for such litigation. However, if a lawsuit asserting such claims were filed, the EPA, working with the Department of Justice, would evaluate the lawsuit and its claims and respond in an appropriate manner.

Vitter 2c. Do you agree that there is a lag time between implementing conservation measures and observing local water quality improvements, and that the environmental improvements we are seeing in the Chesapeake Bay today are the result of voluntary efforts initiated several years ago?

Response: Yes, there is evidence from both local stream and river water quality and groundwater monitoring data, analyzed by the U.S. Geological Survey and university scientists, that there are lag times between implementation and responses of both voluntary and state mandated conservation practices.

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Response: The Education Workgroup of the Chesapeake Bay Program's Stewardship Goal Implementation Team is currently developing a management strategy for the Agreement's environmental literacy planning outcome. Management strategies, due no later than June 2015, will outline the means for accomplishing each outcome. The development of each management strategy is a collaborative effort of the goal team and/or workgroup including self-identified signatory partners with input from stakeholders. The Education Workgroup currently includes representatives from the National Park Service, the National Oceanic and Atmospheric Administration, the Chesapeake Bay Trust, the Chesapeake Bay Foundation, and other state, local and nongovernmental experts. Although the EPA does not disagree that private property rights serve as a backbone to the region's economy, it is premature to speculate about what exactly will be included in the environmental literacy curricula.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 30 2014

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

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Ranking Member
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

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BARBARA BOXER, CHAIRMAN

THOMAS R. CARPER, DELAWARE
CHRISTINE L. WARRIOR, MASSACHUSETTS
CHRISTOPHER J. WHITE, VERMONT
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TOM COONS, NEW MEXICO
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EDWARD J. MARKEY, MASSACHUSETTS

DAVID VITTER, LOUISIANA
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JILL KASSIDY, ALABAMA
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BOB CROWDER, MISSISSIPPI
JOHN BOOZMAN, ARKANSAS
TED CRUZ, TEXAS

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6176

DETTA POWER, MAJORITY STAFF DIRECTOR
JAN BAR, REPUTATION STAFF DIRECTOR

April 24, 2014

Ann E. Dunkin
c/o Laura Vaught
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

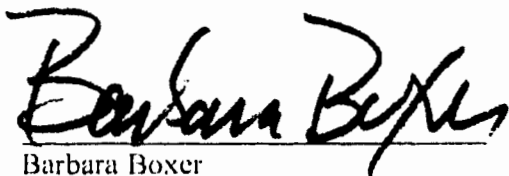
Dear Ms. Dunkin:

Thank you for appearing before the Committee on Environment and Public Works on April 8, 2014 at the hearing entitled, "Hearing on the Nominations of Janet G. McCabe to be the Assistant Administrator for Air and Radiation of the U.S. Environmental Protection Agency (EPA), Ann E. Dunkin to be the Assistant Administrator for Environmental Information of the EPA, and Manuel H. Ehrlich, Jr., to be a Member of the Chemical Safety and Hazard Investigation Board." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

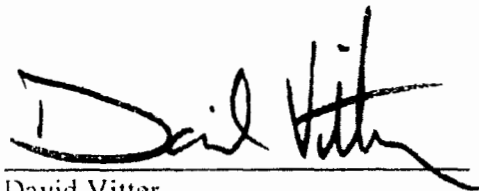
Enclosed are questions for you that have been submitted by Senators Vitter and Boozman for the hearing record. Please submit your answers to these questions by COB May 8, 2014, to the attention of Drew Kramer, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Drew_Kramer@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact David Napoliello of the Majority Staff at (202) 224-8832, or Bryan Zumwalt of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,



Barbara Boxer
Chairman



David Vitter
Ranking Member

Environment and Public Works Committee Hearing
April 8, 2014
Follow-Up Questions for Written Submission

Questions for Dunkin

Questions from:

Senator David Vitter

1. On April 2, 2014, you met with my staff to discuss several concerns that I have with the performance of the Office of Environmental Information. In particular, my staff discussed the Office's shortcomings with regard to compliance with the Freedom of Information Act (FOIA) and timely responses to Congress as exemplified in EPA's failure to adequately respond to letters sent on April 29, 2013 and May 17, 2013 (attached). At that meeting, my staff requested that EPA implement an expedited timeframe to fully respond to the April letter, as nearly a full year has passed and the request has not yet been fulfilled. In addition, my staff requested that EPA finally produce correspondence between the agency and FOIA fee requestors, documents that were requested in last May's letter. What is the status of these requests?
2. I understand that EPA's process to respond to a Congressional request is cumbersome and inefficient. Your office has to identify the potential custodians, provide them with search terms, transfer self-identified documents to the FOIA office, and then turn the documents over to Congress after review. (See example of April 29, 2013 letter) This process is cumbersome and drains staff resources, while simultaneously hindering transparency. However, we know that the IG has the ability to directly access resources at the Office of Information Technology - plug in search terms - and obtain responsive documents fairly instantly. Will you commit to investigating how your office could transition away from the slow and cumbersome process currently employed by EPA, and towards a system that utilizes the technology EPA already has in place, and is used by the EPAIG, to speed up EPA's response time to Congressional inquiries? Will you commit to providing me a summary of your findings no later than one month after you are in office?

Senator John Boozman

1. Do you support allowing the public to participate in the nomination process for Science Advisory Board Members and to provide public comments?
 2. At times, SAB members have been involved both directly and indirectly in reviewing their own work. This violates principles outlined in the EPA's Peer Review Handbook. Do you agree that Board members should not participate in advisory activities that directly or indirectly involve review and evaluation of their own work?
 3. Do you believe that Science Advisory Board members with dissenting views should be empowered to make those views known to the public and to the EPA Administrator?
 4. Risk or hazard assessments include many of the most significant and consequential scientific undertakings at the EPA. Do you believe that EPA's Science Advisory Boards should review each of these assessments and provide advice and comment?
 5. Do you believe that Science Advisory Boards should be limited from providing non-scientific policy advice?
-

AL 12-000-0506

BARBARA BOXER, CALIFORNIA, CHAIRMAN

MAX BAUCUS, MONTANA
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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

BETTINA FORNER, MAJORITY STAFF DIRECTOR
RUTH VAN NARK, MINORITY STAFF DIRECTOR

January 11, 2012

James A. Hanlon
Director, Office of Wastewater Management
U.S. Environmental Protection Agency
USEPA Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 4201M
Washington, DC 20460

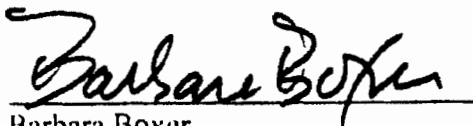
Dear Mr. Hanlon:

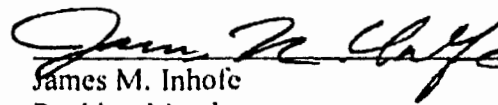
Thank you for appearing before the Committee on Environment and Public Works on December 13, 2011 at the hearing entitled, "Our Nation's Water Infrastructure: Challenges and Opportunities." We appreciate your testimony and we know that your input will prove valuable as we continue our work on this important topic.

Enclosed are questions that have been submitted by Senators Boxer, Cardin and Inhofe for the hearing record. Please submit your answers to these questions by COB January 25, 2012 to the attention of Jonathan Aronchick, Senate Committee on Environment and Public Works, 410 Dirksen Senate Office Building, Washington, DC 20510. In addition, please provide the Committee with a copy of your answers via electronic mail to Jonathan_Aronchick@epw.senate.gov. To facilitate the publication of the record, please reproduce the questions with your responses.

Again, thank you for your assistance. Please contact Jason Albritton of the Majority Staff at (202) 224-8832, or Elizabeth Fox of the Minority Staff at (202) 224-6176 with any questions you may have. We look forward to reviewing your answers.

Sincerely,


Barbara Boxer
Chairman


James M. Inhofe
Ranking Member

**Environment and Public Works Committee Hearing
December 13, 2011
Follow-Up Questions for Written Submission**

Questions for Hanlon

Questions from:

Senator Barbara Boxer

1. Please describe the economic and environmental benefits of using green infrastructure? Can these practices help to reduce costs for wastewater and drinking water utilities? How is EPA working with local communities to promote these practices?
2. Please describe the key components of EPA's efforts to promote sustainability of the nation's water infrastructure. What are the primary benefits of this approach? Can improved sustainability help to reduce the gap in infrastructure funding needed?
3. Please describe how the use of additional subsidization authorities in the State Revolving Fund programs helps small communities access funding for needed water infrastructure upgrades.

Senator Benjamin L. Cardin

1. EPA has estimated a required investment of over \$500 billion dollars in our wastewater and drinking water infrastructure over the next two decades.
 - o What are the likely impacts if we fail to commit ourselves to this level of investment?
2. A variety of proposed water infrastructure financing approaches involve private sector partnership. For example, proposed legislation here in the Senate would lift the existing cap on private activity bonds for water infrastructure projects.
 - o In your opinion, what is the appropriate role of the private sector in funding these types of projects?
 - o What potential challenges should we keep in mind as we determine how best to incorporate private sector funding?

Senator James M. Inhofe

1. At the hearing, you mentioned within ARRA, the FY10 budget, and the CR FY11 budget, Congress has tried to encourage green infrastructure by dictating states use 20% of their capitalization grant money for these green, water efficiency, and energy efficiency projects, if such projects are available.
 - a. How many states are using the full 20% of their capitalization grant money for "green" projects?
 - b. How many of these projects are energy efficient or water efficient rather than low impact development or "green" design?
 - c. Is EPA concerned that the "Green Project Reserve" can lead to higher priority water projects being by-passed by the SRF program to meet the 20% green goal?
2. Can you further describe the sustainability handbook you mentioned during the hearing that is supposed to come out early this year?

- a. What will it contain and will there be any new requirements for state managers of the SRF program?
 - b. What is the definition of sustainability used in the handbook?
3. As was noted in the hearing, the SRF program is designed to give communities access to low-interest loans for infrastructure in order to meet water quality and public health goals. How is EPA ensuring that the sustainability policy does not interfere with the core goals of the SRF program?
4. Because the term "sustainability" in the sustainability policy refers both to system sustainability – management of systems for long term financial and physical viability, and community sustainability – smart growth, low impact development, and green infrastructure, and these are not necessarily clearly separated in the policy document, how are the EPA regions ensuring they are consistently applying this policy?
5. Considering that the SRF is only a portion of the water infrastructure investments made in the US each year, why is EPA using the SRF program and not the wider regulatory program to try and achieve these sustainability goals?
6. Do you think that the additional subsidization requirements in the FY10 and FY11 appropriations bills are reducing states' leveraging capacity?
7. Please provide for the record the guidance EPA issues to the states to interpret the SRF directives in this year's FY12 appropriations bill.

AL-12-000-0506



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 12 2012

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

Thank you for your letter of January 11, 2012, requesting responses to questions for the record following the December 13, 2011 hearing before the Subcommittee on Water and Wildlife entitled, "Our Nation's Water Infrastructure: Challenges and Opportunities."

The responses to your questions are provided as an enclosure. Again, thank you for your letter. If you have any further questions, please contact me, or you staff may contact Greg Spraul in my office at (202) 564-0255.

Sincerely,

A handwritten signature in black ink, which appears to read "Laura Vaught", is positioned above the typed name and title.

Laura Vaught
Deputy Associate Administrator for
Congressional Affairs

Enclosure

Questions for the Record

This document contains answers to questions for the record from James A. Hanlon, Director, Office of Wastewater Management, U.S. Environmental Protection Agency from the hearing held on December 13, 2011 by the Subcommittee on Water and Wildlife entitled, "Our Nation's Water Infrastructure: Challenges and Opportunities."

Senator Barbara Boxer

1. Please describe the economic and environmental benefits of using green infrastructure? Can these practices help to reduce costs for wastewater and drinking water utilities? How is EPA working with local communities to promote these practices?

Green infrastructure is a demonstrated approach that many cities are using as a cost-effective means for reducing the volume of wet weather discharges and the pollutants contained within stormwater. By managing rain near to where it falls, green infrastructure can prevent polluted stormwater from entering local waterways and degrading water quality. In addition, green infrastructure can improve air quality by capturing pollutants, reduce the urban heat island effect, decrease energy use, and provide many community benefits associated with increased vegetation.

By helping to prevent stormwater from entering sewer systems, green infrastructure can reduce the capital investment and operational expenses needed for managing and treating these discharges. In cities with combined sewer systems, the reduced sewer inflows can also reduce the volume of combined sewer overflows (CSOs). The use of green infrastructure practices that capture and use rainwater for beneficial uses reduces the amount of potable water treated and delivered by drinking water utilities, reducing operational costs and environmental impacts. Examples where green infrastructure is being used for enhanced environmental and economic outcomes include:

- Onondaga County, New York is investing approximately \$80 million in green infrastructure practices as a part of its program to reduce CSOs. This investment is anticipated to save up to \$20 million when compared to a grey infrastructure only remedy.
- Portland, Oregon is investing \$86 million in both green and grey infrastructure to improve the performance of the combined sewer system in its Brooklyn Creek Basin. Using green streets, trees and restoring natural vegetated areas as part of the solution is anticipated to save the city \$58 million compared to the grey infrastructure only approach.
- Kansas City, Missouri is investing in a green and grey infrastructure improvement within the 100-acre Middle Blue River Basin to reduce CSOs. The green/grey solution is projected to provide 500,000 gallons of additional stormwater capacity when compared to the grey infrastructure only option and is anticipated to cost \$10 million less to construct.

A large emphasis of the EPA's green infrastructure program has been outreach and technical support. In 2011, the agency initiated a green infrastructure partnership program with 10 communities across the U.S. to recognize successful applications of green infrastructure and provide technical resources and support to these communities for further development of their green infrastructure programs. The EPA intends to expand this effort during 2012 to include up to 20 additional communities.

2. Please describe the key components of EPA's efforts to promote sustainability of the nation's water infrastructure. What are the primary benefits of this approach? Can improved sustainability help to reduce the gap in infrastructure funding needed?

Based on the principles laid out in the agency's *Clean Water and Safe Drinking Water Infrastructure Sustainability Policy*, issued in September 2010, the EPA is working with a broad group of stakeholders to promote sustainability across the water sector on three interrelated fronts:

- **Sustainable Water Infrastructure**—To help address the mounting need to renew and replace our aging water infrastructure, the EPA is promoting up-front planning to ensure that utilities' water infrastructure investments support community sustainability goals; are based on the consideration of a range of alternatives, including green infrastructure; and are supported by a financial strategy, including adequate rates, to construct, operate, maintain, and replace the alternatives chosen.
- **Sustainable Water Sector Systems**—While infrastructure is a core component of water sector sustainability, wastewater and drinking water systems need to be effectively managing all aspects of their operations. The EPA will continue to support our partnership with several professional associations to promote effective utility management based on a series of *Attributes of Effectively Managed Utilities*, including smaller utilities that often face daunting management challenges. Similarly, we are working to enhance the Capacity Development Program under the Safe Drinking Water Act to help build the technical, managerial, and financial capacity of drinking water systems.
- **Sustainable Communities**— Investments in water infrastructure and water sector systems can have a profound impact on the overall character and sustainability of our communities. The EPA is promoting the coordinated targeting of investments from various infrastructure sectors, such as housing, transportation and water, to locations within a community that support its goals for livability and sustainable growth.

We believe this approach will provide an array of benefits to the public by ensuring that investments in water infrastructure are cost-effective over their life-cycle, efficient, and support the long-term sustainability of the communities this infrastructure serves.

3. Please describe how the use of additional subsidization authorities in the State Revolving Fund programs helps small communities access funding for needed water infrastructure upgrades.

Additional subsidization is a tool that further reduces the effective interest rate of a State Revolving Fund (SRF) loan. The reduction may come in the form of a grant, principal forgiveness, or negative interest rates. In each instance, the recipient community will pay back less than the cost of the project, or in some cases, nothing. Though not a requirement, the EPA recommends that this authority be used for those communities that could not otherwise afford a traditional SRF loan.

Senator Benjamin L. Cardin

1. EPA has estimated a required investment of over \$500 billion dollars in our wastewater and drinking water infrastructure over the next two decades. What are the likely impacts if we fail to commit ourselves to this level of investment?

As a nation, we have invested billions of dollars over the years to build an extensive network of drinking water, wastewater and stormwater infrastructure to provide the public with safe and clean water. While some of that infrastructure is now 100 years old or older, much of our network of water treatment plants, distribution lines, sewer lines and storage facilities was built after World War II. The renewal and replacement of the assets that make up our nation's water infrastructure is a constant and ongoing task. Deferral of renewal and replacement can negatively impact levels of service in the long run.

The future investment required for sustaining this drinking water and wastewater infrastructure will largely be borne by the municipalities that depend on these vital public services. Federal programs such as the State Revolving Funds can help provide subsidized assistance to states and communities in making water infrastructure investments, but these programs have never served as the primary source of funding. The construction of new infrastructure and maintenance of existing infrastructure will continue to be largely a local responsibility.

The EPA is committed to do its part toward promoting sustainable practices, providing technical assistance to communities, and supporting community infrastructure investments in order to help ensure that citizens of these communities continue to enjoy the benefits of clean and safe water.

2. A variety of proposed water infrastructure financing approaches involve private sector partnership. For example, proposed legislation here in the Senate would lift the existing cap on private activity bonds for water infrastructure projects. In your opinion, what is the appropriate role of the private sector in funding these types of projects? What potential challenges should we keep in mind as we determine how best to incorporate private sector funding?

Currently, the private sector is significantly involved in the ownership and operation of drinking water facilities. According to 2011 data, 47 percent of the 51,226 community water systems are privately owned. This includes investor-owned utilities that serve very large and small communities, as well as manufactured home communities and homeowner associations. Under the Drinking Water State Revolving Fund (DWSRF), states can already make financing available to private community systems, except in states in which state law prohibits this practice.

Private sector involvement in wastewater treatment facilities is less significant than drinking water facilities due to a variety of economic and regulatory factors. However, contract operations where a private entity operates and maintains a publicly owned treatment works have been increasingly common and we expect that this trend will continue.

With privatization involving private equity in a public-purpose wastewater treatment facility, the primary challenge is for the privately owned facility to achieve and maintain a level of service equal to or better than a publicly owned facility. At the same time, the privately owned facility would need to keep user rates affordable to consumers at a level comparable to a publicly owned facility. There are also other considerations that must

be taken into account, including public and political opposition to a facility changing ownership from a public entity to a private entity.

Senator James M. Inhofe

1. At the hearing, you mentioned within ARRA, the FY10 budget, and the CR FY11 budget, Congress has tried to encourage green infrastructure by dictating states use 20% of their capitalization grant money for these green, water efficiency, and energy efficiency projects, If such projects are available.

a. How many states are using the full 20% of their capitalization grant money for "green" projects?

All states and Puerto Rico used at least 20% of their ARRA capitalization grants for "green" projects. All states and Puerto Rico plan to use at least 20% of their FY 2010 and FY 2011 capitalization grants for "green" projects. Several states have already reached the 20% goal for FY 2010 and FY 2011.

b. How many of these projects are energy efficient or water efficient rather than low impact development or "green" design?

SRF Green Project Reserve (GPR) projects are classified into four categories: energy efficiency, water efficiency, green infrastructure, and other environmentally innovative projects. Below are the percentages of funding provided to projects classified as "energy efficiency" and "water efficiency" projects (note that a single project may be classified into multiple categories if, for example, it includes both energy efficiency and water efficiency elements).

Clean Water State Revolving Fund (as of January 2012)

	Energy Efficiency	Percent of Total GPR Funding	Water Efficiency	Percent of Total GPR Funding
ARRA	\$606 million	54%	\$153 million	14%
FY 2010	\$69 million	35%	\$37 million	19%
FY 2011	Not enough information reported to date.			

Drinking Water State Revolving Fund (as of January 2012)

	Energy Efficiency	Percent of Total GPR Funding	Water Efficiency	Percent of Total GPR Funding
ARRA	\$142 million	26%	\$356 million	66%
FY 2010	\$20 million	16%	\$76 million	62%
FY 2011	Not enough information reported to date.			

c. Is EPA concerned that the "Green Project Reserve" can lead to higher priority water projects being bypassed by the SRF program to meet the 20% green goal?

For the Clean Water SRF, the Green Project Reserve represents a very small percentage of overall SRF annual funding. FY 2012 Appropriations Act language requires at least 10% of the amount appropriated to be used for the GPR. The annual appropriations only represent approximately 20% of the total SRF funding volume when including repayments, interest, bond proceeds, etc. Therefore, the effective requirement for GPR is only

approximately 2% of all SRF annual funding. It is highly unlikely that this requirement will impact a state's ability to fund high priority water projects. Furthermore, GPR funds can be used to pay for energy- or water-efficient portions of high priority projects.

For drinking water projects, the picture is different. For the American Recovery and Reinvestment Act, and 2010 and 2011 appropriations, at least 20 percent of the amount appropriated was to be for GPR. Some states raised concerns that it was challenging to identify GPR projects to meet the 20 percent requirement and that doing so could impact projects with greater public health significance. The FY 2012 appropriation does not require GPR for the DWSRF but, at the discretion of each state, the capitalization grants may be used for addressing green infrastructure, water or energy efficiency, or other environmentally innovative activities.

2. Can you further describe the sustainability handbook you mentioned during the hearing that is supposed to come out early this year?

- a. What will it contain and will there be any new requirements for state managers of the SRF program?**
- b. What is the definition of sustainability used in the handbook?**

As part of the agency's ongoing efforts to promote sustainable water infrastructure, the agency recently issued *Planning for Sustainability: A Handbook for Water and Wastewater Utilities*. The Handbook is designed to help utilities enhance their current planning processes to ensure that infrastructure investments are cost-effective over their life cycle, resource efficient, and support other relevant community goals. The Handbook is organized around a series of Core Elements including:

- Setting utility sustainability goals and objectives that also support relevant community goals;
- Analyzing a range of alternatives, including green infrastructure and other innovative approaches, based on full life-cycle costs; and
- Implementing a financial strategy, including adequate rate structures, to ensure the alternatives chosen are sufficiently funded, operated, maintained, and replaced over time.

The Handbook does not include any new requirements for state managers of the SRF program. The Handbook also does not include a definition of sustainability but instead is organized around the Core Elements described above. Each element also includes a series of steps utilities can take to implement the element as well as numerous examples from other communities.

3. As was noted in the hearing, the SRF program is designed to give communities access to low interest loans for infrastructure in order to meet water quality and public health goals. How is EPA ensuring that the sustainability policy does not interfere with the core goals of the SRF program?

The sustainability policy is a tool for planning and does not require any particular action on the part of state SRF programs. State programs are encouraged to follow the principles outlined in the policy and report on its use in the state's annual report. Furthermore, the EPA believes that by following the principles of the policy, states are furthering the core goals of the SRF program by ensuring that investments in water infrastructure are cost-effective over their life-cycle, efficient, and support the long-term sustainability of the communities the infrastructure serves.

4. Because the term "sustainability" in the sustainability policy refers both to system sustainability - management of systems for long term financial and physical viability, and community sustainability - smart growth, low impact development, and green infrastructure, and these are not necessarily clearly separated in the policy document, how are the EPA regions ensuring they are consistently applying this policy?

As mentioned above, the sustainability policy is a tool for water utilities to engage in a collaborative process to ensure water infrastructure investments meet community and utility goals. The regions are not enforcing any aspects of the policy, but they are encouraging its use. As described in our response to Question 2 above, we believe that the Core Elements of a sustainable water and wastewater utility can include both system sustainability and community sustainability, not simply one or the other.

5. Considering that the SRF is only a portion of the water infrastructure investments made in the US each year, why is EPA using the SRF program and not the wider regulatory program to try and achieve these sustainability goals?

The sustainability policy is a tool for helping to ensure that federal investments, policies, and actions support water infrastructure in efficient and sustainable locations to best aid existing communities, enhance economic competitiveness, and promote affordable neighborhoods. As the policy emphasizes, federal SRF capitalization funds currently finance a relatively small portion of the capital projects undertaken across the water sector – and none of the operations and maintenance. For this reason, the EPA recognizes that achieving sustainability goals will require more than simply targeting SRF funding. Under the Policy, the EPA will work with all stakeholders, including states, local governments, and their communities, to provide guidance and technical assistance to support increasing the sustainability of water infrastructure in the U.S.

The EPA is promoting the use of flexible approaches within its regulatory programs to encourage the adoption of practices by water and wastewater utilities that will help these utilities plan and effectively manage their infrastructure and operations to ensure sustainability and to develop and maintain the necessary technical, financial and managerial capacity to conduct effective planning. Over the past several years, we have been working closely with state and local governments to incorporate flexibility for sustainable measures, like green infrastructure approaches, within permits and enforcement actions. We have many successful examples of cities that will utilize green infrastructure to meet regulatory requirements in a way that also yields jobs, enhances neighborhoods, and promotes more sustainable communities.

On April 20, 2011, the EPA issued a memorandum entitled *"Protecting Water Quality with Green Infrastructure in EPA Water Permitting and Enforcement Programs"* to encourage the incorporation of green infrastructure approaches into National Pollutant Discharge Elimination System (NPDES) permits, as well as remedies designed to address non-compliance with the Clean Water Act (CWA), to the maximum extent possible. The EPA further committed to work with states and communities to implement and utilize integrated planning approaches to municipal wastewater and stormwater management in its October 27, 2011 memorandum entitled *"Achieving Water Quality Through Integrated Municipal Stormwater and Wastewater Plans."* Integrated planning will assist municipalities on their critical paths to achieving the human health and water quality objectives of the CWA by identifying efficiencies in implementing the sometimes overlapping and competing requirements that arise from distinct wastewater and stormwater programs, including how best to make capital investments. Integrated planning can also facilitate the use of sustainable and comprehensive solutions, including green infrastructure, that protect human health, improve water quality, manage stormwater as a resource, and

support other economic benefits and quality of life attributes that enhance the vitality of communities. The integrated planning approach does not remove obligations to comply with the CWA, but rather recognizes the flexibilities in the CWA for the appropriate sequencing of work.

6. Do you think that the additional subsidization requirements in the FY10 and FY11 appropriations bills are reducing states' leveraging capacity?

For the Clean Water SRF, over \$3.6 billion was appropriated to the states in FY10 and FY11. States were required to provide at least \$433 million of this amount as additional subsidization, but were also given the ability to provide up to \$1.44 billion for such purposes.

For the Drinking Water SRF, \$2.3 billion was appropriated for those years. States were required to provide at least \$690 million of that amount as additional subsidization, but could provide as much as \$1.61 billion.

Requiring that a portion of the federal appropriation be directed as additional subsidization can negatively impact the states' leveraging capacity in several ways. There is less capital available to the states to secure a bond issuance through a debt service reserve, which helps ensure that the bonds receive a favorable credit rating. In addition, providing assistance in the form of additional subsidization reduces interest earnings that would have come from recycled loan payments and future investment opportunities. States may compensate for this by reducing the size of future bond issues, charging a higher interest rate to Clean Water SRF assistance recipients, or both.

For the Clean Water SRF, given the relatively small amount of the FY10 and FY11 federal appropriations that is required to be provided as additional subsidization (approximately 12%), the impact on the states' leverage capacity is estimated to be minor. Even with the additional subsidization requirement, the amount available to the states as permanent federal capitalization greatly exceeds the amounts provided prior to 2009.

For the Drinking Water SRF in 2010 and 2011, the amount of required subsidy was significantly higher, with a minimum of 30% of the grant required to be used for subsidy. The impact on states' ability to leverage will be greater than for the Clean Water SRF. The amount available for permanent capitalization is likely to be only slightly higher than the amount available from the 2009 appropriations, despite larger amounts available in 2010 and 2011, due to the additional subsidization.

7. Please provide for the record the guidance EPA issues to the states to interpret the SRF directives in this year's FY 12 appropriations bill.

FY 2012 SRF procedures are currently being finalized. We will provide you a copy after it's released.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 12 2012

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable James M. Inhofe
Ranking Member
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Senator Inhofe:

Thank you for your letter of January 11, 2012, requesting responses to questions for the record following the December 13, 2011 hearing before the Subcommittee on Water and Wildlife entitled, "Our Nation's Water Infrastructure: Challenges and Opportunities."

The responses to your questions are provided as an enclosure. Again, thank you for your letter. If you have any further questions, please contact me, or you staff may contact Greg Spraul in my office at (202) 564-0255.

Sincerely,

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Laura Vaught
Deputy Associate Administrator for
Congressional Affairs

Enclosure

Questions for the Record

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Senator Barbara Boxer

1. Please describe the economic and environmental benefits of using green infrastructure? Can these practices help to reduce costs for wastewater and drinking water utilities? How is EPA working with local communities to promote these practices?

Green infrastructure is a demonstrated approach that many cities are using as a cost-effective means for reducing the volume of wet weather discharges and the pollutants contained within stormwater. By managing rain near to where it falls, green infrastructure can prevent polluted stormwater from entering local waterways and degrading water quality. In addition, green infrastructure can improve air quality by capturing pollutants, reduce the urban heat island effect, decrease energy use, and provide many community benefits associated with increased vegetation.

By helping to prevent stormwater from entering sewer systems, green infrastructure can reduce the capital investment and operational expenses needed for managing and treating these discharges. In cities with combined sewer systems, the reduced sewer inflows can also reduce the volume of combined sewer overflows (CSOs). The use of green infrastructure practices that capture and use rainwater for beneficial uses reduces the amount of potable water treated and delivered by drinking water utilities, reducing operational costs and environmental impacts. Examples where green infrastructure is being used for enhanced environmental and economic outcomes include:

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A large emphasis of the EPA's green infrastructure program has been outreach and technical support. In 2011, the agency initiated a green infrastructure partnership program with 10 communities across the U.S. to recognize successful applications of green infrastructure and provide technical resources and support to these communities for further development of their green infrastructure programs. The EPA intends to expand this effort during 2012 to include up to 20 additional communities.

2. Please describe the key components of EPA's efforts to promote sustainability of the nation's water infrastructure. What are the primary benefits of this approach? Can improved sustainability help to reduce the gap in infrastructure funding needed?

Based on the principles laid out in the agency's *Clean Water and Safe Drinking Water Infrastructure Sustainability Policy*, issued in September 2010, the EPA is working with a broad group of stakeholders to promote sustainability across the water sector on three interrelated fronts:

- **Sustainable Water Infrastructure**—To help address the mounting need to renew and replace our aging water infrastructure, the EPA is promoting up-front planning to ensure that utilities' water infrastructure investments support community sustainability goals; are based on the consideration of a range of alternatives, including green infrastructure; and are supported by a financial strategy, including adequate rates, to construct, operate, maintain, and replace the alternatives chosen.
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We believe this approach will provide an array of benefits to the public by ensuring that investments in water infrastructure are cost-effective over their life-cycle, efficient, and support the long-term sustainability of the communities this infrastructure serves.

3. Please describe how the use of additional subsidization authorities in the State Revolving Fund programs helps small communities access funding for needed water infrastructure upgrades.

Additional subsidization is a tool that further reduces the effective interest rate of a State Revolving Fund (SRF) loan. The reduction may come in the form of a grant, principal forgiveness, or negative interest rates. In each instance, the recipient community will pay back less than the cost of the project, or in some cases, nothing. Though not a requirement, the EPA recommends that this authority be used for those communities that could not otherwise afford a traditional SRF loan.

Senator Benjamin L. Cardin

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As a nation, we have invested billions of dollars over the years to build an extensive network of drinking water, wastewater and stormwater infrastructure to provide the public with safe and clean water. While some of that infrastructure is now 100 years old or older, much of our network of water treatment plants, distribution lines, sewer lines and storage facilities was built after World War II. The renewal and replacement of the assets that make up our nation's water infrastructure is a constant and ongoing task. Deferral of renewal and replacement can negatively impact levels of service in the long run.

The future investment required for sustaining this drinking water and wastewater infrastructure will largely be borne by the municipalities that depend on these vital public services. Federal programs such as the State Revolving Funds can help provide subsidized assistance to states and communities in making water infrastructure investments, but these programs have never served as the primary source of funding. The construction of new infrastructure and maintenance of existing infrastructure will continue to be largely a local responsibility.

The EPA is committed to do its part toward promoting sustainable practices, providing technical assistance to communities, and supporting community infrastructure investments in order to help ensure that citizens of these communities continue to enjoy the benefits of clean and safe water.

2. A variety of proposed water infrastructure financing approaches involve private sector partnership. For example, proposed legislation here in the Senate would lift the existing cap on private activity bonds for water infrastructure projects. In your opinion, what is the appropriate role of the private sector in funding these types of projects? What potential challenges should we keep in mind as we determine how best to incorporate private sector funding?

Currently, the private sector is significantly involved in the ownership and operation of drinking water facilities. According to 2011 data, 47 percent of the 51,226 community water systems are privately owned. This includes investor-owned utilities that serve very large and small communities, as well as manufactured home communities and homeowner associations. Under the Drinking Water State Revolving Fund (DWSRF), states can already make financing available to private community systems, except in states in which state law prohibits this practice.

Private sector involvement in wastewater treatment facilities is less significant than drinking water facilities due to a variety of economic and regulatory factors. However, contract operations where a private entity operates and maintains a publicly owned treatment works have been increasingly common and we expect that this trend will continue.

With privatization involving private equity in a public-purpose wastewater treatment facility, the primary challenge is for the privately owned facility to achieve and maintain a level of service equal to or better than a publicly owned facility. At the same time, the privately owned facility would need to keep user rates affordable to consumers at a level comparable to a publicly owned facility. There are also other considerations that must

be taken into account, including public and political opposition to a facility changing ownership from a public entity to a private entity.

Senator James M. Inhofe

1. At the hearing, you mentioned within ARRA, the FY10 budget, and the CR FY11 budget, Congress has tried to encourage green infrastructure by dictating states use 20% of their capitalization grant money for these green, water efficiency, and energy efficiency projects, if such projects are available.

a. How many states are using the full 20% of their capitalization grant money for "green" projects?

All states and Puerto Rico used at least 20% of their ARRA capitalization grants for "green" projects. All states and Puerto Rico plan to use at least 20% of their FY 2010 and FY 2011 capitalization grants for "green" projects. Several states have already reached the 20% goal for FY 2010 and FY 2011.

b. How many of these projects are energy efficient or water efficient rather than low impact development or "green" design?

SRF Green Project Reserve (GPR) projects are classified into four categories: energy efficiency, water efficiency, green infrastructure, and other environmentally innovative projects. Below are the percentages of funding provided to projects classified as "energy efficiency" and "water efficiency" projects (note that a single project may be classified into multiple categories if, for example, it includes both energy efficiency and water efficiency elements).

Clean Water State Revolving Fund (as of January 2012)

	Energy Efficiency	Percent of Total GPR Funding	Water Efficiency	Percent of Total GPR Funding
ARRA	\$606 million	54%	\$153 million	14%
FY 2010	\$69 million	35%	\$37 million	19%
FY 2011	Not enough Information reported to date.			

Drinking Water State Revolving Fund (as of January 2012)

	Energy Efficiency	Percent of Total GPR Funding	Water Efficiency	Percent of Total GPR Funding
ARRA	\$142 million	26%	\$356 million	66%
FY 2010	\$20 million	16%	\$76 million	62%
FY 2011	Not enough information reported to date.			

c. Is EPA concerned that the "Green Project Reserve" can lead to higher priority water projects being by-passed by the SRF program to meet the 20% green goal?

For the Clean Water SRF, the Green Project Reserve represents a very small percentage of overall SRF annual funding. FY 2012 Appropriations Act language requires at least 10% of the amount appropriated to be used for the GPR. The annual appropriations only represent approximately 20% of the total SRF funding volume when including repayments, interest, bond proceeds, etc. Therefore, the effective requirement for GPR is only

approximately 2% of all SRF annual funding. It is highly unlikely that this requirement will impact a state's ability to fund high priority water projects. Furthermore, GPR funds can be used to pay for energy- or water-efficient portions of high priority projects.

For drinking water projects, the picture is different. For the American Recovery and Reinvestment Act, and 2010 and 2011 appropriations, at least 20 percent of the amount appropriated was to be for GPR. Some states raised concerns that it was challenging to identify GPR projects to meet the 20 percent requirement and that doing so could impact projects with greater public health significance. The FY 2012 appropriation does not require GPR for the DWSRF but, at the discretion of each state, the capitalization grants may be used for addressing green infrastructure, water or energy efficiency, or other environmentally innovative activities.

2. Can you further describe the sustainability handbook you mentioned during the hearing that is supposed to come out early this year?

a. What will it contain and will there be any new requirements for state managers of the SRF program?

b. What is the definition of sustainability used in the handbook?

As part of the agency's ongoing efforts to promote sustainable water infrastructure, the agency recently issued *Planning for Sustainability: A Handbook for Water and Wastewater Utilities*. The Handbook is designed to help utilities enhance their current planning processes to ensure that infrastructure investments are cost-effective over their life cycle, resource efficient, and support other relevant community goals. The Handbook is organized around a series of Core Elements including:

- Setting utility sustainability goals and objectives that also support relevant community goals;
- Analyzing a range of alternatives, including green infrastructure and other innovative approaches, based on full life-cycle costs; and
- Implementing a financial strategy, including adequate rate structures, to ensure the alternatives chosen are sufficiently funded, operated, maintained, and replaced over time.

The Handbook does not include any new requirements for state managers of the SRF program. The Handbook also does not include a definition of sustainability but instead is organized around the Core Elements described above. Each element also includes a series of steps utilities can take to implement the element as well as numerous examples from other communities.

3. As was noted in the hearing, the SRF program is designed to give communities access to low interest loans for infrastructure in order to meet water quality and public health goals. How is EPA ensuring that the sustainability policy does not interfere with the core goals of the SRF program?

The sustainability policy is a tool for planning and does not require any particular action on the part of state SRF programs. State programs are encouraged to follow the principles outlined in the policy and report on its use in the state's annual report. Furthermore, the EPA believes that by following the principles of the policy, states are furthering the core goals of the SRF program by ensuring that investments in water infrastructure are cost-effective over their life-cycle, efficient, and support the long-term sustainability of the communities the infrastructure serves.

4. Because the term "sustainability" in the sustainability policy refers both to system sustainability - management of systems for long term financial and physical viability, and community sustainability - smart growth, low impact development, and green infrastructure, and these are not necessarily clearly separated in the policy document, how are the EPA regions ensuring they are consistently applying this policy?

As mentioned above, the sustainability policy is a tool for water utilities to engage in a collaborative process to ensure water infrastructure investments meet community and utility goals. The regions are not enforcing any aspects of the policy, but they are encouraging its use. As described in our response to Question 2 above, we believe that the Core Elements of a sustainable water and wastewater utility can include both system sustainability and community sustainability, not simply one or the other.

5. Considering that the SRF is only a portion of the water infrastructure investments made in the US each year, why is EPA using the SRF program and not the wider regulatory program to try and achieve these sustainability goals?

The sustainability policy is a tool for helping to ensure that federal investments, policies, and actions support water infrastructure in efficient and sustainable locations to best aid existing communities, enhance economic competitiveness, and promote affordable neighborhoods. As the policy emphasizes, federal SRF capitalization funds currently finance a relatively small portion of the capital projects undertaken across the water sector – and none of the operations and maintenance. For this reason, the EPA recognizes that achieving sustainability goals will require more than simply targeting SRF funding. Under the Policy, the EPA will work with all stakeholders, including states, local governments, and their communities, to provide guidance and technical assistance to support increasing the sustainability of water infrastructure in the U.S.

The EPA is promoting the use of flexible approaches within its regulatory programs to encourage the adoption of practices by water and wastewater utilities that will help these utilities plan and effectively manage their infrastructure and operations to ensure sustainability and to develop and maintain the necessary technical, financial and managerial capacity to conduct effective planning. Over the past several years, we have been working closely with state and local governments to incorporate flexibility for sustainable measures, like green infrastructure approaches, within permits and enforcement actions. We have many successful examples of cities that will utilize green infrastructure to meet regulatory requirements in a way that also yields jobs, enhances neighborhoods, and promotes more sustainable communities.

On April 20, 2011, the EPA issued a memorandum entitled *"Protecting Water Quality with Green Infrastructure in EPA Water Permitting and Enforcement Programs"* to encourage the incorporation of green infrastructure approaches into National Pollutant Discharge Elimination System (NPDES) permits, as well as remedies designed to address non-compliance with the Clean Water Act (CWA), to the maximum extent possible. The EPA further committed to work with states and communities to implement and utilize integrated planning approaches to municipal wastewater and stormwater management in its October 27, 2011 memorandum entitled *"Achieving Water Quality Through Intergrated Municipal Stormwater and Wastewater Plans."* Integrated planning will assist municipalities on their critical paths to achieving the human health and water quality objectives of the CWA by identifying efficiencies in implementing the sometimes overlapping and competing requirements that arise from distinct wastewater and stormwater programs, including how best to make capital investments. Integrated planning can also facilitate the use of sustainable and comprehensive solutions, including green infrastructure, that protect human health, improve water quality, manage stormwater as a resource, and

support other economic benefits and quality of life attributes that enhance the vitality of communities. The integrated planning approach does not remove obligations to comply with the CWA, but rather recognizes the flexibilities in the CWA for the appropriate sequencing of work.

6. Do you think that the additional subsidization requirements in the FY10 and FY11 appropriations bills are reducing states' leveraging capacity?

For the Clean Water SRF, over \$3.6 billion was appropriated to the states in FY10 and FY11. States were required to provide at least \$433 million of this amount as additional subsidization, but were also given the ability to provide up to \$1.44 billion for such purposes.

For the Drinking Water SRF, \$2.3 billion was appropriated for those years. States were required to provide at least \$690 million of that amount as additional subsidization, but could provide as much as \$1.61 billion.

Requiring that a portion of the federal appropriation be directed as additional subsidization can negatively impact the states' leveraging capacity in several ways. There is less capital available to the states to secure a bond issuance through a debt service reserve, which helps ensure that the bonds receive a favorable credit rating. In addition, providing assistance in the form of additional subsidization reduces interest earnings that would have come from recycled loan payments and future investment opportunities. States may compensate for this by reducing the size of future bond issues, charging a higher interest rate to Clean Water SRF assistance recipients, or both.

For the Clean Water SRF, given the relatively small amount of the FY10 and FY11 federal appropriations that is required to be provided as additional subsidization (approximately 12%), the impact on the states' leverage capacity is estimated to be minor. Even with the additional subsidization requirement, the amount available to the states as permanent federal capitalization greatly exceeds the amounts provided prior to 2009.

For the Drinking Water SRF in 2010 and 2011, the amount of required subsidy was significantly higher, with a minimum of 30% of the grant required to be used for subsidy. The impact on states' ability to leverage will be greater than for the Clean Water SRF. The amount available for permanent capitalization is likely to be only slightly higher than the amount available from the 2009 appropriations, despite larger amounts available in 2010 and 2011, due to the additional subsidization.

7. Please provide for the record the guidance EPA issues to the states to interpret the SRF directives in this year's FY 12 appropriations bill.

FY 2012 SRF procedures are currently being finalized. We will provide you a copy after it's released.